An Investigation into

ENVIRONMENTAL AND GEOTECHNICAL CHARACTERIZATION OF RESOLUTION PILOT PLANT TAILINGS

prepared for

RESOLUTION COPPER MINING LLC

Project 12074-002 – Final Report Revision 1
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Executive Summary

SGS was contracted by Resolution Copper Mining LLC (Resolution) to complete environmental and geotechnical characterization of tailings generated during pilot plant (PP) testing of Cu/Mo ore from the Resolution Copper property located at Superior, Arizona (SGS Project reference No. 12074-001). The purpose of the environmental test program was to assess the geochemical, acid rock drainage (ARD), contaminant release and geotechnical properties associated with the tailings materials. Five tailings samples (*Rougher Tls, 1st Cl Scav Tls, Whole Tls, Cyclone U/F Untreated* and *Cyclone U/F Desulphidized*) were included in the environmental test program.

Semi-quantitative X-ray diffraction (XRD) analyses determined that the Resolution samples tested were predominantly comprised of silicates with minor to major amounts of Fe-sulphide in the form of pyrite.

Whole rock and inductively coupled plasma-optical emission spectroscopy/mass spectroscopy (ICP-OES/MS) strong acid digest elemental analyses confirmed the predominantly silicate composition of the tailings and the presence of variable levels of iron. Significant amounts (>1%) of aluminum were also observed. The elevated loss on ignition (LOI) values determined for the *1st Cl Scav Tls* and *Whole Tls* samples suggest the presence of appreciable amounts of volatile species (e.g. sulphides, hydrates, hydroxides, and carbonates) while the lesser LOI values determined for the *Rougher Tls* and *Cyclone U/F Untreated* samples suggests lesser volatile species.

Analysis of the tailings shake flask extraction leachates reported near neutral pH values and all of the typically controlled parameters (Hg, As, Cd, Cu, Fe, Ni, Pb and Zn), with the possible exception of copper in the *1st Cl Scav Tls* leachates, at concentrations well within the typical discharge standards. Analysis of the tailings solutions reported slightly alkaline pH values and concentrations of copper (*1st Cl Scav Tls* and *Whole Tls*) and mercury (*Rougher Tls*) that may prove to be of environmental concern.

Modified acid base accounting (ABA) test results for the *1st Cl Scav Tls* and *Whole Tls* samples reported highly elevated sulphide and very little neutralization potential (NP) indicating strong potential for acid generation. The highly acidic final pH values reported during net acid generation (NAG) testing confirmed the acid generation potential of these samples. It should be noted that, due to the high sulphide concentrations of these samples, single aliquots of H_2O_2 would not be expected to completely oxidize the S^{2-} present. Sequential NAG tests using multiple additions of H_2O_2 would be required to determine a terminal NAG results for these samples.

Humidity cell testing of the *1st Cl Scav Tls* and *Whole Tls* consistently reported acidic leachates (<4.0) and concentrations of copper and iron expected to be of environmental concern. Elevated levels of nickel and zinc were also evident in the *1st Cl Scav Tls* leachates throughout most of the 100 week test period.

Depletion rates calculated for the *1st Cl Scav Tls* and *Whole Tls* test cells indicate that the carbonate contents of these samples were exhausted after the first few weeks of leaching and that the total NP of the samples was exhausted around Week 45.

Even though ABA testing of the *Cyclone U/F Untreated* sample reported significantly lesser sulphide than the aforementioned samples, the low NP and resultant NP/AP ratio similarly suggested the potential for acid generation from this sample under oxidizing conditions. NAG testing of the *Cyclone U/F Untreated* sample reported a final pH value slightly greater than 4.5 resulting in no net acidity generated after aggressive oxidation of the sample. Titration of the sample to pH 7.0 did however report a minor quantity of residual acidity.

Although ABA testing indicated that, due to the very low sulphide contents, the *Rougher Tls* and *Cyclone U/F-Desulphidized* samples would be unlikely in themselves to generate acidity; the very low NP and inadequate CO_3 NP values reported suggest significant uncertainty as to whether these samples would be able to sufficiently neutralize even minor quantities of acidity. NAG testing of the *Rougher Tls* and *Cyclone U/F-Desulphidized* samples reported no net acidity generated at pH 4.5; however, minor quantities of residual acidity were again reported upon titration of the samples to pH 7.0.

Both the *Cyclone U/F-Untreated* and the *Cyclone U/F-Desulphidized* humidity cell leachates reported decreasing pH values that generally stabilized in the 5.2 to 5.8 pH range below over their respective 172 and 202 week test periods. Environmentally significant concentrations of copper were reported *Cyclone U/F-Untreated* leachates. Increasing copper was evident in the *Cyclone U/F-Desulphidized* leachate.

After 202 weeks of leaching, depletion rates indicate that even the less reactive total NP of the *Cyclone U/F-Untreated* sample is expected to be exhausted prior to exhaustion of the sulphide content contained within the sample. This suggests that the *Cyclone U/F-Untreated* sample may generate increasingly acidic drainage in the future.

While depletion rates suggests that the total NP of the *Cyclone U/F-Desulphidized* sample is depleting at a slower rate than the sulphide, calculation of CO_3 NP depletion indicates that the neutralizing carbonates in this sample are depleting at a rate approximately 4 times faster than the sulphides. This again suggests uncertainty as to whether the sample would able to sufficiently neutralize even minor quantities of acidity in an oxidizing environment.

The residues from the humidity cell tests were subsequently subjected to shake flask extraction testing, followed by modified ABA and NAG testing of the washed residue solids. Analysis of the *1st Cl Scav Tls* and *Whole Tls* residue shake flask leachates reported acidic pH values and highly elevated copper and iron concentrations. An elevated nickel concnetration (*1st Cl Scav Tls*) may also prove to be of environmental concern.

Results of the ABA test completed on the washed humidity cell residues confirmed that, while little sulphide depletion occurred within the test cells, there was significant depletion of both total and CO_3 NP. NAG testing of the *1st Cl Scav Tls* and *Whole Tls* washed humidity cell residues confirmed the continued acid generation potential of these samples. NAG testing of the washed *Cyclone U/F Untreated* residue reported minor residual acidity at pH 4.5 and increased residual acidity at pH 7.0. Although NAG testing of the *Cyclone U/F Desulphidized* sample again reported no net acidity generated at pH 4.5, increased residual acidity was evident on titration to pH 7.0 in comparison to the pre-humidity cell NAG tests.

Particle size distribution analyses indicated that the *Rougher Tls, 1st Cl Scav Tls* and *Whole Tls* samples were comprised primarily of fines (silt and clay sized material), while the *Cyclone U/F Untreated* sample was comprised primarily of sand sized grains.

Atterberg limit testing indicated that the *1st Cl Scav Tls* and *Whole Tls* tailings samples tested were non-plastic. Atterberg limits could not be determined for the *Rougher Tls* sample.

Results of the standard Proctor test completed on the *1st Cl Scav Tls* sample reported compaction characteristics that would typically be expected from a silt or rock flour type material, while the *Cyclone U/F Untreated* sample reported compaction characteristics that would be typical of poorly graded sand. Direct shear test results for the *Cyclone U/F Untreated* sample showed increased time to failure and horizontal displacement with increased consolidation pressure. Slump testing classified the *1st Cl Scav Tls* as a solid, as per US EPA standards.

Results of the beaker settling test completed on the *Rougher Tls* sample reported very poor settling characteristics and only a minor increase in the final percent solids of the settled tailings in comparison to the initial feed percent solids.

Introduction

SGS was contracted by Resolution Copper Mining LLC (Resolution) to complete environmental and geotechnical characterization of tailings generated during pilot plant (PP) testing of Cu/Mo ore from the Resolution Copper property located at Superior, Arizona (SGS Project reference No. 12074-001). The purpose of the environmental test program, entitled "Environmental and Geotechnical Characterization of Resolution Pilot Plant Tailings", was to assess the geochemical, acid rock drainage (ARD), contaminant release potential and geotechnical properties associated with the tailings materials. Summary results of the test program were provided to Mr. Darby Stacey, Ms. Victoria Peacey and Ms. Marry Morissette of Resolution Copper Company (RCC) on an ongoing basis throughout the test program.

The following report provides a summary of the environmental testwork completed and the results thereof.

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Scope of Work

The scope of test work completed on the tailings samples included:

- Semi-quantitative X-ray diffraction (XRD) analyses.
- Borate fusion X-ray fluorescence (XRF) whole rock analyses (WRA).
- Inductively coupled plasma-optical emission spectroscopy/mass spectroscopy (ICP-OES/MS) strong acid digest elemental analyses.
- Shake flask extraction (SFE) testing.
- Decant solution analyses.
- Modified acid base accounting (ABA).
- Net acid generation (NAG) testing.
- Humidity cell testing – ASTM D 5744-96 (2001).
- Moisture content determination.
- Particle size distribution by sieve and hydrometer (ASTM D 422).
- Atterberg limits (ASTM D 4318-05).
- Standard Proctor (ASTM D 698-07e1).
- Consolidated drained direct shear (shear box) testing (ASTM D 3080-04).
- Settled density testing (KCB beaker method).
- Slump testing.

For ease of reference, the scope of testwork and the specific samples on which the tests were performed are summarized in Table 1.

Table 1: Scope of Work

Sample Identifier	Rougher Tls	1st Cl Scav Tls	Whole Tls	Cyclone U/F - Untreated	Cyclone U/F - Desulphidized
Semi-quantitative XRD	X	X	X	X	
Whole Rock	X	X	X	X	
ICP-OES/MS Strong Acid Digest	X	X	X	X	
Short Term Leach (24 hr - 3:1 L:S)	X	X	X	X	
Decant Solution Analyses	X	X	X	X	X
Mod ABA	X	X	X	X	X
NAG	X	X	X	X	X
Humidity Cell		X	X	X	X
Moisture Content	X	X	X	X	
SG	X	X	X	X	
PSD (sieve and hydrometer)	X	X	X	X	
Atterberg Limits	X	X			
Standard Proctor		X		X	
Consolidated Drained Direct Shear Test				X	
Settled Density Test	X				
Slump		X			

Sample Descriptions and Test Methods

The following sections provide brief overviews of the samples received and the test methods included in the environmental characterization program.

1. Sample Descriptions

Descriptions of the Resolution tailings samples received are provided in Table 2 below.

Table 2: Samples Received from Metallurgical Operations

Sample Identifier	SGS Reference Project No	Description
Rougher Tls	12074-001	pulp
Ist Cl Scav Tls	12074-001	pulp
Whole Tls	12074-001	pulp
Cyclone U/F - Untreated	12074-001	pulp
Cyclone U/F - Desulphidized	12074-001	pulp

2. Sample Preparation

Upon receipt, aliquots of the supernatant solution were decanted from the settled tailings slurries and submitted for analysis. The individual pulp samples were then were thoroughly recombined (mixed for 1 hour at 200 rpm) prior to the extraction and filtration of the tailings solids on #1 Whatman filter papers (11 µm). Representative portions of the resultant filter cake solids were prepared for the proposed geochemical and geotechnical testwork and analyses according to SGS Standard Operating Procedures and the individual test method protocols.

3. Test Methods

The following sections provide a brief overview of the test methods included in the environmental characterization program.

3.1. Semi-Quantitative X-ray Diffraction Analyses

Representative portions of the tailings samples were submitted for semi-quantitative XRD analyses in order to identify the bulk mineralogy, crystalline assemblages, and the relative proportions of the mineral phases (as wt.%). In this method, x-rays are used to bombard a powdered sample. The x-rays, which penetrate a very thin layer of the sample, are diffracted by lattice planes of minerals. These unique diffraction patterns were used to semi-quantitatively identify the minerals contained within the sample. The mineral abundances determined by XRD (in wt.%) were reconciled with the WRA.

3.2. X-ray Fluorescence Whole Rock Analyses

Whole rock analyses (WRA) were completed on the samples using an XRF method in order to determine the elemental concentrations of the major rock forming constituents. This method quantifies the major elements present and reports them as oxides to permit a mass balance assessment against the component of a sample that is amenable to oxidization (loss on ignition).

3.3. ICP-OES/MS Strong Acid Digest Elemental Analyses

The samples were digested using an acid mixture of HNO_3, HF, $HClO_4$, and HCl to obtain a near total digest of the parameters being analyzed. ICP-OES/MS trace metal scans were performed to provide quantitative analysis of the elemental components of the sample material. Analyses requested included: Ag, Al, As, B, Ba, Be, Bi, Ca, Cd, Co, Cr, Cu, Fe, Hg, K, Li, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Sn, Si, Sr, Ti, Tl, U, V, W, Y, and Zn. Mercury analyses were completed by cold vapour atomic absorption spectroscopy (CVAAS).

3.4. Shake Flask Extraction Testing

The SFE test was used to evaluate the mobility of contaminants from the tailings solids under the pH conditions imposed by the waste material itself and under the constraints imposed by contaminant solubility limitations. Deionised (DI) water leachant was added to the samples at a 3:1 liquid to solid ratio. The samples were rotated end over end at 29 ± 2 rpm for a period of 24 hours prior to being filtered through a 0.45 µm cellulose acetate membrane filter. The resultant filtrate solutions were analyzed for pH, conductivity, alkalinity, acidity, Cl, F, SO_4 and dissolved metals analyses as per the aforementioned suite of analyses.

3.5. Decant Solution Analyses

ICP-OES/MS elemental analyses were completed on the tailings solutions to provide quantitative analysis of the total and dissolved elemental components and to aid in the identification of elements present at potential environmentally significant concentrations. In addition to total and dissolved metals analyses as per the previously noted suite of parameters; pH, acidity, alkalinity, conductivity, EMF, TDS, TSS, anion (Cl, F, NO_2, NO_3 and SO_4), ammonia, and thiosalt analyses were also included in the analytical suite.

3.6. Modified Acid Base Accounting

The modified ABA test provided quantification of the total sulphur, sulphide sulphur, and sulphate concentrations present and the potential acid generation (AP) related to the oxidation of the sulphide sulphur concentration. The test method determined the neutralization potential (NP) of the samples by initiating a reaction with excess acid and then identified the quantity of acid neutralized by the samples

NP by back-titrating to pH 8.3 with NaOH. The balance between the AP and NP assists in defining the potential of the sample to generate acid drainage. In addition, quantification of the extent of carbonate mineral content permitted calculation of the theoretical carbonate NP.

3.7. Net Acid Generation Testing

NAG tests were conducted to determine the balance between the acid consuming and acid producing components of the waste products. The NAG test initiated a reaction between the sample and concentrated hydrogen peroxide in order to force complete oxidation and reaction of the acidity produced with the neutralizing minerals present within the sample. After the reaction ceased, the pH of the solution was measured (NAG pH). The acid remaining after the reaction was titrated with standardized NaOH to pH 4.5 and the net acid generated by the reaction was calculated and expressed in units of kg H_2SO_4 equivalent per tonne. The $NAG_{4.5}$ value is indicative of the contribution from free acid, aluminum, and iron. Titration from pH 4.5 to pH 7.0 can provide additional information for sample characterization as, under certain conditions, the $NAG_{7.0}$ is indicative of the presence of metallic ions that consume alkalinity over this pH range, such as copper and zinc.

3.8. Humidity Cell Testing – ASTM D 544-96 (2001)

The humidity cell test is used to predict the potential for acidic leachate generation and the primary rates of reaction under aerobic weathering conditions. Following the standard ASTM D5744-96 (2001) method, humidity cell testing was initiated on the tailings at the as-received particle size in a test cell with dimensions of 20.3 cm (8”) ID by 10.2 cm (4”) height. A perforated disk was located approximately 12.5 mm (1/2”) above the cell bottom to support the solid sample. A filter media was placed on the perforated disk to transmit air and to allow leachate to drain and collect in the cell bottom. A valve located at the bottom of the cell allowed leachate to pass into the collection vessel.

A 1,000 g dry equivalent weight of sample was loaded into the cell. The first leach, designated as the Week 0 leach, initiated the humidity cell test and established the initial characteristics of the leachate. The first leach was performed by flooding the sample with 1,000 mL of deionised (DI) water for one hour, followed by the collection of leachate for analyses.

Subsequent steps of the humidity cell test involved three stages over a 7-day cycle: (1) dry air (which entered from the side of the test cell and flowed across the sample) continued for 3 days; (2) humid air was passed through the cell in the same manner as the dry air for 3 days; and (3) on the last day of the cycle, DI water was added through the top of the cell and allowed to flood the cell for one hour prior to the leachate being collected. Weekly leachate samples from the humidity cell test were submitted for general analyses including: pH, acidity, alkalinity, conductivity and sulphate. ICP-OES/MS trace metal scans

were initially performed on a weekly basis (Weeks 0 through 5) with subsequent metal scans completed every five weeks thereafter.

3.9. Moisture Content Determination

Moisture content of the tailing filter cake samples were determined by drying to constant weight at 60°C.

3.10. Particle Size Distribution Analyses (ASTM D 422-63 (2007))

The Micromeritics Model 1305 multivolume gas pycnometer measured the volume of powdery, granular, porous and irregularly shaped particles in the solids using Boyle's Law. The test used a known weight of solids to quantitatively determine the specific gravity of the samples.

Standard screen sieve sizes (Tyler) were used to determine the sizes of the solid tailings particles. The weights of the percent retained and passing on each respective screen size were determined. The test determined the particle size distribution of the plus 200 mesh fraction of the products being investigated.

The particle size distribution for the minus 200 mesh fraction of the products was established using the hydrometer (sedimentation) method. A 50 g (dry equivalent) sample was placed into solution (dispersing agent) with 1 L of DI water in a standardized glass cylinder. The solution was agitated, and the particles were permitted to settle out of suspension. As settling occurred over time, the average specific gravity of the mixture decreased, causing the height of the suspended hydrometer to drop. Readings of the hydrometer at specific time intervals provided (though established relationships) the weight of the soil remaining in suspension, and the size of the particles that had settled out of solution. The percent finer weight was calculated based on the hydrometer readings, using Stokes Law for spheres falling freely in a fluid of known properties.

3.11. Atterberg Limits (ASTM D 4318-05)

Testing was completed to determine the liquid limit, plastic limit, and plasticity index of the -0.425 mm (-40 mesh) fraction of the tailings solids. The liquid limit was determined by performing a number of trials in which a moist sample was spread in a brass cup and divided by a grooving tool. The sample was then allowed to flow together, closing the groove, as a result of the impacts from the repeated dropping of the cup in a standardized mechanical device. The plastic limit was determined by rolling a portion of the test sample into a 3 mm diameter thread until the water content of the sample was reduced to the point where the thread crumbled and the sample could no longer be rolled. The plasticity index was then calculated based on the liquid and plastic limit results.

3.12. Standard Proctor (ASTM D 698-07e1)

The objective of this testing was to determine the compaction characteristics of the tailings produced under the standard compaction effort of 600 kN-m/m^3. This test determined the maximum wet and dry densities for the tailings compacted with standard effort and the optimum moisture content that will facilitate compaction to this density.

3.13. Consolidated Drained Direct Shear Testing (ASTM D 3080-04)

The direct shear test was completed to determine the consolidated drained shear strength of the tailings in direct shear. Three specimens of the sample were tested, each under a different normal load. All samples were deformed at a controlled strain rate on a near single shear plane. This testwork was subcontracted to Golder Associates Ltd.

3.14. Settled Density Test (KCB Beaker Method)

A beaker settling test was conducted to determine if the *Rougher Tls* would settle adequately with flocculant (Hyperfloc AF 303 at 20 g/t) and to provide an estimate of the settled terminal density and the water release capacity of the tailings sample tested. Two litres of pulp were prepared to the desired density and poured into a two litre graduated beaker. The slurry was then vigorously agitated. A stopwatch was started immediately at the cessation of agitation, and the height of the liquid-solid interface (or mud line) was recorded at given time intervals over a period of 3 days. The settled pulp and bulk densities were then calculated.

3.15. Slump Testing

The slump test involved “compacting” the *1st Cl Scav Tls* at a moisture content of 25% into a 30 cm high open inverted cone mould. The sample was added to the cone in three equivalent lifts, each of which was “rodded” 25 times with the tamping rod. The cone was then removed and the immediate decrease (slump) in the height of the waste material was measured. Material that slumps such that the original height is reduced by 15 cm or more is considered a liquid waste.

Test Results

Summary results of the testwork completed on the Resolution tailings samples are shown in the following sections. Complete test results are appended to this report (Appendix A). Analytical Certificates of Analysis are provided in Appendix B.

1. Semi-Quantitative X-ray Diffraction Analyses

Tables 3 and 4 below provide summary results of the qualitative and semi-quantitative XRD analyses completed on the tailings samples. The complete test report is provided in Appendix C.

Table 3: Qualitative XRD Results

Sample Identifier	Crystalline Mineral Assemblage			
	Major (>30 wt.%)	**Moderate** (10-30 wt. %)	**Minor** (2-10 wt. %)	**Trace** (<2 wt. %)
Rougher Tls	quartz	mica	kaolinite, potassium feldspar	*rutile, *pyrite
1st Cl Scav Tls	pyrite, quartz	mica	kaolinite, potassium feldspar	*calcite, *rutile
Whole Tls	quartz	mica	pyrite, kaolinite, potassium feldspar	*rutile
Cyclone U/F Untreated	quartz	mica	kaolinite, potassium feldspar	*rutile, *pyrite

Relative proportions based on peak height.

**Tentative identification due to low concentrations, diffraction line overlap or poor crystallinity.*

Table 4: Semi-Quantitative XRD Results

Mineral	Unit	Rougher Tls	1st Cl Scav Tls	Whole Tls	Cyclone U/F Untreated
Quartz	%	66.5	30.2	59.2	74.9
Muscovite	%	19.3	22.0	23.8	15.2
Illite	%	3.3	2.9	2	2.8
Pyrite	%	0.6	34.0	8.5	0.4
Kaolinite	%	5.8	5.1	3.6	3.3
Orthoclase	%	3.6	3.1	2.2	2.4
Rutile	%	1.0	0.9	0.8	1.1
Calcite	%	-	1.9	-	-
Total	%	***100.1***	***100.1***	***100.1***	***100.1***

2. X-ray Fluorescence Whole Rock Analyses

Results of the XRF whole rock analyses conducted on the tailings samples are shown in Table 5.

Table 5: XRF Whole Rock Analyses Results

Parameter	Unit	Rougher Tls	1st Cl Scav Tails	Whole Tails	Cyclone U/F Untreated
SiO_2	%	79.0	43.2	71.8	85.6
Al_2O_3	%	11.7	11.7	11.8	8.00
Fe_2O_3	%	1.00	23.0	5.87	0.93
MgO	%	0.93	0.78	0.89	0.64
CaO	%	0.28	0.81	0.39	0.20
Na_2O	%	0.06	0.06	0.04	0.04
K_2O	%	3.22	2.94	3.15	2.30
TiO_2	%	1.01	0.72	0.94	1.01
P_2O_5	%	0.20	0.24	0.21	0.13
MnO	%	< 0.01	< 0.01	< 0.01	< 0.01
Cr_2O_3	%	0.03	0.06	0.04	0.04
V_2O_5	%	0.03	0.04	0.02	0.02
LOI	%	2.91	15.1	5.36	1.88
Sum	*%*	*100.4*	*98.6*	*100.5*	*100.8*

3. ICP-OES/MS Strong Acid Digest Elemental Analyses

Summary results of the ICP-OES/MS strong acid digest elemental analyses are presented in Table 6. Results are shown in their entirety in Appendix A.

Table 6: ICP-OES/MS Strong Acid Digest Elemental Analyses Results

Parameter	Unit	Rougher Tls	1st Cl Scav Tls	Whole Tls	Cyclone U/F Untreated
Hg	µg/g	< 0.1	< 0.1	< 0.1	< 0.1
Al	µg/g	61000	61000	60000	41000
Ag	µg/g	0.28	2.3	0.73	0.34
As	µg/g	1.7	13	4.8	3.0
Ca	µg/g	1900	5500	2600	1300
Cd	µg/g	0.11	0.13	0.06	0.09
Cu	µg/g	650	5000	1600	1200
Fe	µg/g	7300	160000	41000	6900
K	µg/g	28000	26000	27000	21000
Mg	µg/g	5300	4400	4900	3600
Mn	µg/g	36	62	41	31
Ni	µg/g	41	82	26	11
Pb	µg/g	130	170	140	67
Sb	µg/g	< 0.8	< 0.8	< 0.8	< 0.8
Si	%	34.6	18.8	32.3	38.5
Ti	µg/g	1200	1600	1300	1100
Tl	µg/g	0.32	0.36	0.32	0.21
Zn	µg/g	22	67	31	20

4. Shake Flask Extraction Testing

Results of the shake flask extractions conducted on the tailings samples are summarized in Table 7. Complete results are provided in Appendix A.

Table 7: Shake Flask Extraction Results

Parameter	Unit	Rougher Tls	1st Cl Scav Tls	Whole Tls	Cyclone U/F Untreated
pH	units	7.48	7.70	7.85	7.59
Conductivity	uS/cm	216	2410	927	94
Alkalinity	mg/L as $CaCO_3$	23	151	68	15
Acidity	mg/L as $CaCO_3$	< 2	< 2	< 2	< 2
Cl	mg/L	2.2	2.3	2.1	1.6
F	mg/L	1.65	1.79	1.69	0.71
SO_4	mg/L	72	1800	470	25
Hg	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ag	mg/L	0.00007	0.00002	0.00002	0.00003
Al	mg/L	0.08	< 0.01	< 0.01	0.15
As	mg/L	0.0020	0.0028	0.0007	0.0034
Ca	mg/L	30.9	656	198	12.8
Cd	mg/L	0.000021	0.000403	0.000074	0.000020
Cu	mg/L	0.0037	0.123	0.0273	0.0080
Fe	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
K	mg/L	12.7	25.3	16.8	2.84
Mg	mg/L	1.69	15.3	6.05	0.727
Mn	mg/L	0.0123	2.24	0.373	0.00906
Na	mg/L	2.02	3.69	2.19	2.53
Ni	mg/L	0.0009	0.0983	0.0060	0.0001
Pb	mg/L	0.00005	< 0.00002	0.00004	0.00007
Si	mg/L	2.44	2.62	2.19	2.00
Zn	mg/L	< 0.001	0.011	0.002	0.002

5. Decant Solution Analyses

Results of the analyses completed on the decanted tailings solutions are summarized in Table 8. Results are shown in their entirety in Appendix A.

Table 8: Decant Solution Analyses Results

Parameter	Unit	Rougher Tls		1st Cl Scav Tls		Whole Tls		Cyclone U/F-Untreated		Cyclone U/F-Desulphidized	
TSS	mg/L	23	---	13	---	32	---	< 2	---	< 2	---
TDS	mg/L	314	---	306	---	283	---	234	---	174	---
F	mg/L	3.56	---	1.45	---	2.77	---	1.88	---	1.78	---
pH	units	7.97	---	8.00	---	8.08	---	8.07	---	8.10	---
Conductivity	µS/cm	520	---	430	---	450	---	380	---	310	---
Alkalinity	mg/L as $CaCO_3$	87	---	35	---	69	---	99	---	91	---
Acidity	mg/L as $CaCO_3$	< 2	---	21	---	< 2	---	< 2	---	< 2	---
SO_4	mg/L	140	---	120	---	110	---	61	---	34	---
Cl	mg/L	22	---	19	---	20	---	17	---	16	---
Thiosalts	as S_2O_3 mg/L	< 10	---	43	---	27	---	< 10	---	< 10	---
Metals		**Total**	**Dissolved**	**Total**	**Dissolved**	**Total**	**Dissolved**	**Total**	**Dissolved**	**Total**	**Dissolved**
Hg	mg/L	0.0045	0.0007	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ag	mg/L	0.00008	0.00003	0.00129	0.00407	0.00079	0.00110	0.00001	< 0.00001	0.00001	< 0.00001
As	mg/L	0.0014	0.0010	0.0014	0.0011	0.0012	0.0010	0.0008	0.0010	0.0011	0.0013
Ca	mg/L	52.5	51.0	54.5	53.2	53.5	52.8	48.2	46.5	33.4	33.1
Cd	mg/L	0.000023	0.000014	0.000032	0.001835	0.000023	0.000283	0.000017	0.000064	0.000009	0.00864
Cu	mg/L	0.0673	0.0178	0.310	0.217	0.145	0.0613	0.0175	0.0144	0.0064	0.0048
Fe	mg/L	0.43	< 0.01	1.11	< 0.01	1.05	< 0.01	0.04	< 0.01	0.06	0.02
K	mg/L	41.1	39.7	24.1	23.3	34.3	33.2	21.3	20.4	25.6	25.3
Mg	mg/L	5.80	5.74	4.97	4.93	5.96	5.92	4.65	4.54	3.53	3.60
Mn	mg/L	0.0750	0.0715	0.01314	0.03205	0.04027	0.04063	0.0790	0.0764	0.0230	0.0499
Na	mg/L	17.4	17.0	13.5	13.4	15.1	15.0	10.5	11.1	9.40	10.2
Ni	mg/L	0.0020	0.0008	0.0021	0.0014	0.0023	0.0015	0.0008	0.0006	0.0006	0.0013
Pb	mg/L	0.00125	0.00014	0.00088	0.00031	0.00120	0.00020	0.00018	< 0.00002	0.00063	0.00053
Si	mg/L	4.03	2.93	1.80	1.23	3.25	2.35	4.13	4.01	3.30	3.12
Zn	mg/L	0.005	0.003	0.003	0.006	0.004	0.004	0.001	0.002	0.006	0.010

6. Modified Acid Base Accounting and Net Acid Generation Testing

Summary results of the modified ABA and NAG tests completed on the Resolution tailings samples are shown in Tables 9 and 10, respectively. Detailed test results are presented in Appendix A.

Table 9: Modified Acid Base Accounting Results

Parameter	Unit	Rougher Tls	1st Cl Scav Tls	Whole Tls	Cyclone U/F Untreated	Cyclone U/F Desulphidized
Paste pH	units	8.51	6.96	7.48	8.15	8.39
Fizz Rate	---	1	1	1	1	1
NP[1]	t $CaCO_3$/1000 t	5.0	7.2	4.8	4.0	3.8
AP	t $CaCO_3$/1000 t	1.73	518	125	6.55	1.43
Net NP	t $CaCO_3$/1000 t	3.27	-511.04	-120.69	-2.55	2.37
NP/AP	ratio	2.89	0.01	0.04	0.61	2.66
S	%	0.091	19.4	4.25	0.220	0.046
SO_4	%	0.04	2.80	0.24	0.01	< 0.01
Sulphide	%	0.06	16.6	4.02	0.21	0.05
C	%	0.026	0.089	0.035	0.012	0.020
Carbonate	%	0.032	0.051	0.027	0.025	0.022
CO_3 NP[2]	t $CaCO_3$/1000 t	0.53	0.85	0.45	0.42	0.37
CO_3 Net NP	t $CaCO_3$/1000 t	-1.20	-517	-125	-6.14	-1.06
CO_3 NP/AP	ratio	0.31	0.002	0.004	0.06	0.26
Classification	based on ABA NP[1]	uncertain	PAG	PAG	PAG	uncertain
Classification	based on CO_3 NP[2]	PAG	PAG	PAG	PAG	PAG

[1] *measured in ABA test*
[2] *theoretical, based on CO_3 content alone.*
Green highlighting indicates Net NP values less than 20.
Orange highlighting indicates NP/AP ratios less than 3.
PAG - Potentially Acid Generating based on interpretation of ABA test data alone.
PAN - Potentially Acid Neutralizing based on interpretation of ABA test data alone.
uncertain - acid generation potential is uncertain based on interpretation of ABA test data alone.

Table 10: Net Acid Generation Test Results

Parameter	Unit	Rougher Tls	1st Cl Scav Tls	Whole Tls	Cyclone U/F Untreated	Cyclone U/F Desulphidized
Final pH	units	6.38	2.17	2.31	4.72	6.45
NAG@pH4.5	kg H_2SO_4/t	0	51	36	0	0
NAG@pH7.0	kg H_2SO_4/t	0.6	114	55	2.3	0.7

7. Humidity Cell Testing – ASTM D 544-96 (2001)

Results of pH, conductivity, acidity, alkalinity and sulphate analyses, and the calculated sulphate production, NP consumption and calculated cumulative depletion rates for the *1st Cl Scav Tls, Whole Tls, Cyclone U/F - Untreated* and *Cyclone U/F - Desulphidized* humidity cell test leachates are summarized in Tables 11, 13, 15, and 17, respectively. Summary results of the dissolved metal concentrations in the *1st Cl Scav Tls, Whole Tls, Cyclone U/F - Untreated* and *Cyclone U/F - Desulphidized* leachates are presented in Tables 12, 14, 16, and 18, respectively. Complete test reports are provided in Appendix D. Certificates of Analysis are included in Appendix E.

Table 11: Humidity Cell Test Weekly Leachate Results and Cumulative Depletion Rates – 1st Cl Scav Tls

Week	pH	Acidity	Alkalinity	Conductivity	SO_4	SO_4 Prod Rate	Cumulative $S^=$ Depl	Cumulative NP Depl	Cumulative CO_3 NP Depl
	units	$CaCO_3$ eq. Mg/L	$CaCO_3$ eq. Mg/L	µS/cm	mg/L	g/t/wk	%	%	%
0	7.05	<2	13	198	80	33.7	0.01	0.49	4.13
1	6.88	12	11	308	130	124.0	0.03	2.28	19.33
2	6.79	16	9	333	140	136.6	0.06	4.26	36.07
3	6.98	3	9	442	200	197.8	0.10	7.12	60.31
4	6.30	<2	5	331	150	146.0	0.13	9.23	78.20
5	6.43	3	3	284	130	128.1	0.15	11.08	93.89
6	5.84	4	<2	272	120	118.6	0.18	12.80	108.42
7	5.60	4	<2	286	130	128.1	0.20	14.65	124.11
8	5.41	5	<2	279	120	118.3	0.23	16.36	138.61
9	5.38	11	<2	308	140	138.6	0.25	18.37	155.60
10	5.23	10	<2	305	150	148.4	0.28	20.52	173.78
11	4.85	9	<2	298	130	127.9	0.31	22.37	189.45
12	4.79	5	<2	280	120	119.6	0.33	24.10	204.12
13	4.75	11	<2	275	130	127.8	0.36	25.95	219.78
14	4.55	14	<2	277	130	129.5	0.39	27.82	235.64
15	4.47	13	<2	255	110	109.1	0.41	29.40	249.02
16	4.56	15	<2	252	110	108.6	0.43	30.97	262.32
17	4.37	17	<2	277	120	118.6	0.45	32.68	276.85
18	4.60	20	<2	254	110	109.3	0.48	34.27	290.25
19	4.27	23	<2	263	110	109.5	0.50	35.85	303.66
20	4.19	29	<2	287	130	129.1	0.52	37.72	319.48
21	4.16	33	<2	291	120	118.6	0.55	39.43	334.01
22	4.05	41	<2	334	150	148.7	0.58	41.58	352.23
23	4.10	42	<2	291	150	147.6	0.61	43.72	370.32
24	3.96	50	<2	332	140	138.9	0.63	45.73	387.34
25	3.90	57	<2	309	130	127.4	0.66	47.57	402.95
26	3.82	75	<2	386	160	157.9	0.69	49.86	422.30
27	3.74	82	<2	400	160	158.9	0.72	52.15	441.77
28	3.76	91	<2	374	160	158.2	0.76	54.44	461.17
29	3.64	103	<2	448	170	169.0	0.79	56.89	481.87
30	3.70	97	<2	368	170	169.5	0.82	59.34	502.64
31	3.60	125	<2	491	200	199.6	0.86	62.23	527.11
32	3.71	111	<2	415	160	158.6	0.90	64.52	546.54
33	3.70	118	<2	445	170	166.4	0.93	66.93	566.93
34	3.66	122	<2	460	190	188.5	0.97	69.66	590.03
35	3.67	124	<2	468	180	178.0	1.00	72.23	611.85
36	3.62	127	<2	465	180	177.3	1.04	74.80	633.57
37	3.55	138	<2	504	210	208.1	1.08	77.81	659.08
38	3.20	145	<2	529	220	218.2	1.12	80.97	685.82
39	3.60	151	<2	530	210	207.1	1.17	83.96	711.20
40	3.40	162	<2	629	250	248.0	1.22	87.55	741.59
41	3.44	129	<2	497	200	198.4	1.25	90.42	765.90
42	3.51	135	<2	534	200	199.0	1.29	93.30	790.29
43	3.49	123	<2	513	210	207.9	1.34	96.31	815.77
44	3.47	126	<2	550	210	208.1	1.38	99.32	841.27
45	3.39	130	<2	558	230	228.4	1.42	102.62	869.26
46	3.36	140	<2	518	220	217.6	1.47	105.77	895.93
47	3.41	135	<2	591	220	215.6	1.51	108.89	922.35
48	3.49	118	<2	524	190	188.3	1.55	111.61	945.42
49	3.43	118	<2	523	180	177.5	1.58	114.18	967.17
50	3.44	126	<2	560	210	208.3	1.63	117.19	992.70
51	3.41	131	<2	561	220	217.4	1.67	120.34	1019.34
52	3.36	128	<2	578	240	238.8	1.72	123.79	1048.60
53	3.36	128	<2	577	220	217.8	1.76	126.94	1075.30
54	3.39	122	<2	568	220	218.5	1.81	130.11	1102.07
55	3.39	130	<2	598	220	218.2	1.85	133.26	1128.81
56	3.33	127	<2	588	220	214.5	1.89	136.37	1155.10

Continued on next page

Week	pH	Acidity	Alkalinity	Conductivity	SO_4	SO_4 Prod Rate	Cumulative $S^=$ Depl	Cumulative NP Depl	Cumulative CO_3 NP Depl
	units	$CaCO_3$ eq. Mg/L	$CaCO_3$ eq. Mg/L	µS/cm	mg/L	g/t/wk	%	%	%
57	3.28	129	<2	599	250	247.8	1.94	139.95	1185.46
58	3.33	127	<2	580	220	217.8	1.99	143.10	1212.15
59	3.30	133	<2	603	230	228.2	2.03	146.40	1240.11
60	3.35	126	<2	584	220	218.0	2.08	149.56	1266.83
61	3.29	116	<2	602	230	230.5	2.12	152.89	1295.07
62	3.30	125	<2	592	210	207.9	2.16	155.90	1320.55
63	3.26	125	<2	603	220	217.1	2.21	159.04	1347.16
64	3.18	137	<2	619	230	229.8	2.25	162.36	1375.32
65	3.33	128	<2	576	210	206.2	2.29	165.35	1400.59
66	3.29	132	<2	623	220	219.1	2.34	168.52	1427.44
67	3.26	121	<2	562	210	207.7	2.38	171.52	1452.90
68	3.33	132	<2	581	210	206.9	2.42	174.52	1478.25
69	3.30	128	<2	591	210	207.5	2.46	177.52	1503.67
70	3.33	121	<2	552	220	217.4	2.51	180.66	1530.31
71	3.29	136	<2	594	230	227.7	2.55	183.96	1558.21
72	3.29	139	<2	604	210	208.3	2.60	186.97	1583.74
73	3.33	128	<2	577	200	197.6	2.63	189.83	1607.96
74	3.26	133	<2	617	210	209.6	2.68	192.86	1633.64
75	3.26	124	<2	582	200	198.0	2.72	195.73	1657.91
76	3.19	129	<2	641	220	217.4	2.76	198.87	1684.55
77	3.23	119	<2	559	200	196.0	2.80	201.71	1708.56
78	3.24	131	<2	568	210	206.2	2.84	204.69	1733.84
79	3.24	131	<2	630	210	206.9	2.88	207.68	1759.19
80	3.18	137	<2	631	240	236.9	2.93	211.11	1788.22
81	3.23	136	<2	619	220	218.0	2.97	214.26	1814.93
82	3.19	123	<2	590	190	188.3	3.01	216.99	1838.01
83	3.08	144	<2	673	220	212.1	3.05	220.06	1864.00
84	3.29	136	<2	641	220	218.0	3.10	223.21	1890.72
85	3.30	125	<2	586	200	197.8	3.14	226.07	1914.96
86	3.19	146	<2	658	220	218.0	3.18	229.23	1941.68
87	3.20	140	<2	637	210	208.1	3.22	232.24	1967.18
88	3.20	138	<2	618	230	228.4	3.27	235.54	1995.17
89	3.24	128	<2	599	210	207.9	3.31	238.55	2020.65
90	3.22	138	<2	640	220	218.7	3.35	241.71	2047.44
91	3.22	137	<2	624	210	207.1	3.40	244.71	2072.82
92	3.17	146	<2	640	220	218.9	3.44	247.87	2099.65
93	3.21	141	<2	635	210	207.5	3.48	250.88	2125.07
94	3.19	143	<2	659	230	227.7	3.53	254.17	2152.98
95	3.20	135	<2	649	230	230.2	3.57	257.50	2181.19
96	3.15	145	<2	665	230	226.8	3.62	260.78	2208.98
97	3.20	138	<2	625	220	217.4	3.66	263.93	2235.62
98	3.16	140	<2	606	220	217.1	3.71	267.07	2262.23
99	3.19	147	<2	665	220	218.5	3.75	270.23	2289.00
100	3.13	151	<2	688	230	225.6	3.80	273.49	2316.65

Table 12: Humidity Cell Test – Dissolved Metals Concentrations – 1st Cl Scav Tls

Parameter	Units	0	1	2	3	4	5	10	15	20	25	30	35	40
pH	units	7.05	6.88	6.79	6.98	6.30	6.43	5.23	4.47	4.19	3.90	3.70	3.67	3.40
Hg	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ag	mg/L	< 0.00001	< 0.00001	0.00002	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00001	0.00003	0.00002	0.00004
Al	mg/L	< 0.01	< 0.01	0.02	< 0.01	0.03	0.09	0.27	0.72	2.18	5.63	9.33	11.1	10.8
As	mg/L	0.0002	0.0008	0.0004	0.0003	0.0006	< 0.0002	0.0006	< 0.0002	0.0002	< 0.0002	0.0004	0.0003	0.0004
Ca	mg/L	32.9	54.5	54.4	70.6	52.6	47.5	48.6	38.2	41.6	35.7	32.1	31.2	39.0
Cd	mg/L	0.000067	0.000059	0.000076	0.000075	0.000093	0.000629	0.000172	0.000431	0.00107	0.00287	0.00399	0.00344	0.00281
Cu	mg/L	0.0536	0.0564	0.364	0.301	0.597	0.909	1.52	2.49	4.58	9.93	21.8	31.4	40.5
Fe	mg/L	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.24	0.48	1.23	2.33	3.37	4.40	8.97
K	mg/L	2.13	4.56	5.25	6.05	4.43	3.84	3.10	2.00	2.09	2.03	1.94	1.75	2.23
Mg	mg/L	2.25	3.68	4.81	6.03	4.22	3.50	2.79	1.66	1.55	1.26	1.09	1.07	1.31
Mn	mg/L	0.313	0.232	0.208	0.255	0.204	0.163	0.271	0.492	0.899	1.03	0.677	0.552	0.509
Na	mg/L	0.63	0.97	1.14	1.23	0.88	0.67	0.39	0.15	0.10	0.10	0.08	0.08	0.10
Ni	mg/L	0.0177	0.0106	0.0105	0.0118	0.0114	0.0106	0.0203	0.0385	0.122	0.315	0.362	0.402	0.358
Pb	mg/L	0.00003	< 0.00002	0.00002	< 0.00002	< 0.00002	0.00050	0.00010	0.00031	0.00014	0.00021	0.00090	0.00016	0.00026
Si	mg/L	0.11	0.25	0.27	0.36	0.36	0.34	0.60	0.82	1.76	2.84	3.83	4.30	6.77
Zn	mg/L	0.010	0.010	0.013	0.011	0.015	0.041	0.025	0.054	0.140	0.354	0.467	0.468	0.455

Table 12 Continued: Humidity Cell Test – Dissolved Metals Concentrations – 1st Cl Scav Tls

Parameter	Units	45	50	55	60	65	70	75	80	85	90	95	100
pH	units	3.39	3.44	3.39	3.35	3.33	3.33	3.26	3.18	3.30	3.22	3.20	3.13
Hg	mg/L	< 0.0001	<0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001
Ag	mg/L	0.00004	0.00003	0.00007	0.00003	0.00006	0.00003	0.00004	0.00004	0.00003	0.00005	0.00005	0.00005
Al	mg/L	7.86	7.42	6.30	6.08	5.02	4.88	4.67	4.24	3.12	3.29	3.53	3.14
As	mg/L	0.0006	0.0003	0.0003	0.0004	0.0007	0.0003	0.0004	0.0005	0.0005	0.0005	0.0004	0.0005
Ca	mg/L	35.6	33.8	33.6	32.7	27.6	28.6	29.3	29.3	26.9	28.5	30.2	29.7
Cd	mg/L	0.00166	0.00128	0.000926	0.000749	0.000600	0.000487	0.000449	0.000391	0.000283	0.000431	0.000225	0.000415
Cu	mg/L	41.4	41.1	39.0	35.9	27.5	26.0	21.1	21.6	15.8	15.4	13.0	14.4
Fe	mg/L	10.9	10.5	12.3	16.0	16.6	19.6	24.1	28.9	25.4	31.6	37.3	38.7
K	mg/L	1.80	1.28	1.18	1.19	0.964	0.893	0.904	0.884	0.762	0.793	0.822	0.727
Mg	mg/L	1.36	1.51	1.59	1.88	1.79	2.04	2.28	2.51	1.83	1.91	1.98	1.69
Mn	mg/L	0.367	0.281	0.254	0.193	0.147	0.118	0.100	0.0873	0.0648	0.0599	0.0576	0.0504
Na	mg/L	0.12	0.14	0.12	0.10	0.04	0.07	0.08	0.06	0.05	0.05	0.04	0.03
Ni	mg/L	0.311	0.237	0.238	0.223	0.229	0.210	0.235	0.256	0.186	0.169	0.128	0.102
Pb	mg/L	0.00027	0.00064	0.00025	0.00025	0.00011	0.00018	0.00160	0.00005	0.00008	0.00146	0.00057	0.00015
Si	mg/L	6.66	6.92	7.14	7.89	6.89	6.86	7.35	7.14	6.14	6.80	7.22	6.62
Zn	mg/L	0.350	0.261	0.558	0.482	0.347	0.315	0.254	0.256	0.194	0.167	0.154	0.154

Table 13: Humidity Cell Test Weekly Leachate Results and Cumulative Depletion Rates – Whole Tls

Week	pH	Acidity	Alkalinity	Conductivity	SO_4	SO_4 Prod Rate	Cumulative $S^=$ Depl	Cumulative NP Depl	Cumulative CO_3 NP Depl
	units	$CaCO_3$ eq. mg/L	$CaCO_3$ eq. mg/L	µS/cm	mg/L	g/t/wk	%	%	%
0	7.33	<2	9	326	140	62.9	0.05	1.36	14.55
1	6.80	<2	11	385	160	157.0	0.18	4.77	50.88
2	6.68	<2	7	333	140	138.5	0.30	7.78	82.94
3	6.96	<2	7	340	150	148.5	0.42	11.00	117.31
4	6.56	<2	5	279	120	118.2	0.52	13.56	144.67
5	6.50	<2	5	106	130	129.1	0.63	16.36	174.55
6	6.30	<2	3	266	120	119.2	0.72	18.95	202.14
7	6.13	2	3	281	120	118.2	0.82	21.52	229.50
8	5.93	<2	<2	266	110	108.8	0.91	23.88	254.68
9	6.11	6	2	319	140	139.0	1.03	26.89	286.86
10	5.94	4	<2	290	140	138.5	1.14	29.90	318.91
11	5.94	2	<2	291	130	127.4	1.25	32.66	348.40
12	5.46	6	<2	266	120	120.4	1.35	35.27	376.26
13	5.66	3	<2	218	97	92.3	1.42	37.28	397.64
14	4.90	9	<2	164	74	64.4	1.48	38.68	412.54
15	5.08	8	<2	208	100	96.3	1.56	40.77	434.83
16	5.05	9	<2	172	71	62.6	1.61	42.12	449.31
17	4.82	11	<2	178	71	63.1	1.66	43.49	463.92
18	4.74	17	<2	240	100	100.4	1.75	45.67	487.17
19	4.88	14	<2	164	71	62.4	1.80	47.03	501.61
20	4.50	25	<2	219	96	90.0	1.87	48.98	522.46
21	4.60	26	<2	184	80	69.5	1.93	50.49	538.55
22	4.59	29	<2	179	80	68.6	1.99	51.98	554.42
23	4.63	34	<2	196	100	88.1	2.06	53.89	574.81
24	4.49	34	<2	197	82	71.2	2.12	55.43	591.29
25	4.59	42	<2	207	94	85.3	2.19	57.28	611.02
26	4.96	38	<2	183	75	65.6	2.24	58.71	626.20
27	4.39	43	<2	199	79	69.0	2.30	60.20	642.18
28	4.45	51	<2	205	93	82.9	2.37	62.00	661.36
29	4.34	49	<2	203	83	70.5	2.43	63.53	677.67
30	4.45	48	<2	174	76	63.7	2.48	64.91	692.42
31	4.25	53	<2	207	83	72.0	2.54	66.48	709.09
32	4.31	52	<2	199	78	68.9	2.60	67.97	725.04
33	4.27	75	<2	279	120	113.8	2.69	70.44	751.37
34	4.88	38	<2	180	74	64.2	2.74	71.83	766.22
35	4.46	48	<2	188	70	60.8	2.80	73.15	780.30
36	4.30	57	<2	203	80	68.9	2.85	74.65	796.25
37	4.04	81	<2	284	120	114.2	2.95	77.13	822.69
38	3.77	81	<2	288	120	118.3	3.05	79.69	850.08
39	4.23	57	<2	180	64	53.9	3.09	80.86	862.55
40	4.10	53	<2	195	72	60.8	3.14	82.18	876.62
41	4.22	49	<2	179	72	61.2	3.19	83.51	890.79
42	3.99	75	<2	258	94	90.1	3.27	85.47	911.65
43	3.97	61	<2	226	91	84.4	3.34	87.30	931.18
44	4.07	46	<2	185	67	55.2	3.38	88.50	943.96
45	3.94	50	<2	200	73	63.0	3.43	89.86	958.54
46	3.94	51	<2	174	64	53.4	3.48	91.02	970.91
47	3.81	65	<2	258	89	80.5	3.54	92.77	989.54
48	3.85	54	<2	219	73	66.8	3.60	94.22	1005.00
49	3.86	53	<2	211	69	60.2	3.65	95.53	1018.94
50	3.80	65	<2	260	86	81.4	3.72	97.29	1037.78
51	3.83	59	<2	243	84	73.1	3.78	98.88	1054.69
52	3.75	59	<2	246	92	80.4	3.84	100.62	1073.31
53	3.72	58	<2	241	85	74.1	3.91	102.23	1090.46
54	3.75	63	<2	247	83	72.0	3.97	103.79	1107.12
55	3.73	61	<2	266	84	74.3	4.03	105.40	1124.31
56	3.63	65	<2	291	96	91.1	4.10	107.38	1145.40

Continued on next page

Week	pH	Acidity	Alkalinity	Conductivity	SO_4	SO_4 Prod Rate	Cumulative $S^=$ Depl	Cumulative NP Depl	Cumulative CO_3 NP Depl
	units	$CaCO_3$ eq. mg/L	$CaCO_3$ eq. mg/L	µS/cm	mg/L	g/t/wk	%	%	%
57	3.62	55	<2	259	89	78.0	4.17	109.07	1163.45
58	3.58	67	<2	293	100	94.2	4.25	111.12	1185.25
59	3.63	55	<2	256	83	72.0	4.31	112.68	1201.93
60	3.55	72	<2	331	110	109.1	4.40	115.05	1227.19
61	3.58	53	<2	259	85	75.1	4.46	116.68	1244.56
62	3.55	64	<2	306	95	89.2	4.53	118.61	1265.21
63	3.49	69	<2	326	100	98.8	4.61	120.76	1288.08
64	3.43	69	<2	333	110	109.0	4.70	123.12	1313.32
65	3.53	64	<2	317	99	97.9	4.79	125.25	1335.98
66	3.62	43	<2	245	69	61.6	4.84	126.59	1350.24
67	3.59	42	<2	228	69	62.7	4.89	127.94	1364.75
68	3.63	47	<2	245	70	62.8	4.94	129.31	1379.28
69	3.57	58	<2	313	100	99.0	5.02	131.46	1402.20
70	3.60	56	<2	288	90	89.4	5.10	133.40	1422.88
71	3.61	51	<2	273	86	82.3	5.17	135.18	1441.94
72	3.61	44	<2	241	65	58.8	5.21	136.46	1455.54
73	3.57	52	<2	295	90	88.4	5.29	138.37	1476.00
74	3.93	32	<2	206	69	60.4	5.34	139.68	1489.97
75	3.51	47	<2	284	81	76.5	5.40	141.35	1507.69
76	3.57	38	<2	243	66	56.7	5.45	142.58	1520.81
77	3.57	39	<2	228	67	58.7	5.50	143.85	1534.40
78	3.54	50	<2	267	89	80.1	5.56	145.59	1552.94
79	3.51	49	<2	318	86	76.6	5.63	147.25	1570.68
80	3.43	53	<2	322	92	81.9	5.69	149.03	1589.63
81	3.42	58	<2	341	96	83.5	5.76	150.84	1608.97
82	3.32	61	<2	359	97	93.4	5.84	152.87	1630.59
83	3.33	56	<2	324	83	74.4	5.90	154.48	1647.80
84	3.49	58	<2	331	94	91.4	5.98	156.46	1668.95
85	3.49	55	<2	317	81	70.8	6.04	158.00	1685.34
86	3.34	66	<2	374	96	91.1	6.11	159.98	1706.43
87	3.39	59	<2	331	96	95.2	6.19	162.04	1728.48
88	3.42	46	<2	239	70	60.8	6.24	163.36	1742.54
89	3.30	57	<2	330	81	72.7	6.30	164.94	1759.36
90	3.44	52	<2	284	75	75.0	6.36	166.57	1776.72
91	3.45	51	<2	231	73	71.4	6.42	168.12	1793.25
92	3.29	59	<2	276	79	69.7	6.48	169.63	1809.38
93	3.41	57	<2	249	68	67.8	6.54	171.10	1825.07
94	3.40	52	<2	303	74	72.9	6.60	172.68	1841.94
95	3.42	49	<2	269	71	68.2	6.65	174.16	1857.72
96	3.35	55	<2	235	73	72.5	6.71	175.73	1874.50
97	3.41	52	<2	217	68	67.3	6.77	177.19	1890.07
98	3.43	48	<2	219	63	62.2	6.82	178.54	1904.46
99	3.38	54	<2	240	67	66.4	6.88	179.98	1919.83
100	3.39	48	<2	209	62	61.6	6.93	181.32	1934.08

Table 14: Humidity Cell Test – Dissolved Metals Concentrations – Whole Tls

Parameter	Units	0	1	2	3	4	5	10	15	20	25	30	35
pH	units	7.33	6.80	6.68	6.96	6.56	6.50	5.94	5.08	4.50	4.59	4.45	4.46
Hg	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ag	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00001	< 0.00001
Al	mg/L	< 0.01	< 0.01	0.04	< 0.01	< 0.01	< 0.01	0.07	0.57	2.59	5.13	5.87	5.59
As	mg/L	0.0004	0.0005	0.0009	0.0004	0.0004	0.0003	< 0.0002	0.0003	0.0003	< 0.0002	0.0003	< 0.0002
Ca	mg/L	52.5	64.0	55.6	57.1	47.3	51.0	50.7	32.7	33.6	26.5	18.0	15.1
Cd	mg/L	0.000031	0.000105	0.000095	0.000067	0.000050	0.000144	0.000122	0.000374	0.00140	0.00208	0.00160	*0.000104
Cu	mg/L	0.0083	0.0771	0.143	0.0735	0.0626	0.0679	0.364	1.29	3.13	7.37	9.82	9.73
Fe	mg/L	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.06	0.30	0.43	0.37	0.51
K	mg/L	7.00	7.40	5.51	4.88	3.57	3.64	2.54	1.60	1.94	1.80	1.19	0.97
Mg	mg/L	3.53	4.73	2.82	2.33	1.64	1.60	0.958	0.532	0.694	0.544	0.367	0.287
Mn	mg/L	0.288	0.420	0.259	0.212	0.158	0.146	0.173	0.260	0.479	0.374	0.218	0.145
Na	mg/L	1.50	1.56	0.95	0.75	0.50	0.44	0.19	0.06	0.04	0.16	0.04	0.02
Ni	mg/L	0.0052	0.0082	0.0068	0.0059	0.0040	0.0039	0.0074	0.0203	0.0749	0.106	0.0978	0.0868
Pb	mg/L	0.00003	< 0.00002	0.00003	< 0.00002	0.00050	0.00014	0.00004	0.00010	0.00011	0.00010	0.00043	0.00087
Si	mg/L	0.26	0.60	0.54	0.51	0.45	0.50	0.76	0.99	2.19	2.52	2.00	1.90
Zn	mg/L	0.006	0.018	0.014	0.008	0.006	0.011	0.015	0.064	0.278	0.346	0.268	0.206

Table 14 Continued: Humidity Cell Test – Dissolved Metals Concentrations – Whole Tls

Parameter	Units	40	45	50	55	60	65	70	75	80	85	90	95	100
pH	units	4.10	3.94	3.80	3.73	3.55	3.53	3.60	3.51	3.43	3.49	3.44	3.42	3.39
Hg	mg/L	< 0.0001	<0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ag	mg/L	< .00001	0.00001	0.00002	0.00004	0.00002	0.00002	0.00001	0.00001	0.00001	<0.00001	0.00002	0.00002	<0.00001
Al	mg/L	5.62	5.74	7.40	5.94	6.43	4.82	4.21	3.33	2.98	2.45	2.20	1.89	1.56
As	mg/L	< 0.0002	<0.0002	0.0002	0.0003	< 0.0002	0.0003	0.0002	0.0003	0.0004	0.0002	0.0004	< 0.0002	0.0002
Ca	mg/L	14.6	14.1	16.2	14.0	17.2	14.8	16.9	15.2	15.5	12.3	9.93	6.74	4.74
Cd	mg/L	0.000939	0.00188	0.000812	0.000660	0.000752	0.000601	0.000496	0.000360	0.000296	0.000251	0.000415	0.000152	0.000273
Cu	mg/L	9.44	10.9	15.4	15.0	17.6	13.0	11.2	7.50	7.14	5.45	3.70	2.68	2.15
Fe	mg/L	0.67	0.90	1.11	1.34	2.46	2.70	2.33	2.21	3.45	4.49	5.04	5.82	7.05
K	mg/L	0.97	1.02	1.08	0.884	1.28	1.03	0.995	0.884	0.884	0.874	0.854	0.755	0.741
Mg	mg/L	0.282	0.329	0.510	0.548	0.978	0.986	1.13	1.09	1.21	1.05	1.05	0.964	0.863
Mn	mg/L	0.109	0.103	0.109	0.106	0.117	0.106	0.0994	0.0759	0.0691	0.0548	0.0464	0.0387	0.0316
Na	mg/L	< 0.01	0.04	0.08	0.09	0.15	0.10	0.14	0.11	0.11	0.07	0.07	0.04	0.03
Ni	mg/L	0.0732	0.0725	0.0742	0.0708	0.0769	0.0845	0.0760	0.0730	0.0808	0.0663	0.0566	0.0422	0.0307
Pb	mg/L	0.00009	0.00427	0.00028	0.00008	0.00023	0.00122	0.00012	0.00032	0.00004	0.00072	0.00020	0.00007	0.00010
Si	mg/L	2.25	2.60	3.98	3.49	6.21	6.04	5.94	4.90	4.17	4.37	4.61	3.94	3.73
Zn	mg/L	0.181	0.181	0.176	0.278	0.319	0.232	0.191	0.127	0.112	0.084	0.067	0.047	0.040

Table 15: Humidity Cell Test Weekly Leachate Results and Cumulative Depletion Rates – Cyclone U/F - Untreated

Week	pH	Acidity	Alkalinity	Conductivity	SO_4	SO_4 Prod Rate	Cumulative $S^=$ Depl	Cumulative NP Depl	Cumulative CO_3 NP Depl
	units	$CaCO_3$ eq. mg/L	$CaCO_3$ eq. mg/L	µS/cm	mg/L	g/t/wk	%	%	%
0	7.15	<2	5	265	100	51.6	0.82	1.34	12.80
1	7.41	<2	16	92	22	21.4	1.16	1.90	18.11
2	7.39	<2	15	62	8.8	8.7	1.30	2.13	20.27
3	7.52	<2	14	55	7.6	7.5	1.42	2.32	22.12
4	7.33	<2	14	49	7.4	7.3	1.53	2.51	23.93
5	7.26	<2	13	12	7.0	6.8	1.64	2.69	25.61
6	7.05	<2	13	48	6.0	6.0	1.73	2.84	27.09
7	6.94	<2	12	45	6.2	6.2	1.83	3.00	28.62
8	7.26	<2	12	42	5.7	5.5	1.92	3.15	29.99
9	7.29	<2	10	36	4.7	4.7	1.99	3.27	31.15
10	6.99	<2	9	35	5.1	5.0	2.07	3.40	32.40
11	6.93	<2	9	35	4.6	4.5	2.15	3.52	33.52
12	6.55	<2	8	32	4.2	4.2	2.21	3.63	34.55
13	6.91	<2	6	26	4.0	3.4	2.26	3.72	35.38
14	6.69	<2	6	24	4.0	3.7	2.32	3.81	36.29
15	6.98	<2	6	23	3.9	3.4	2.38	3.90	37.12
16	7.07	<2	6	22	3.6	3.2	2.43	3.98	37.91
17	6.87	<2	4	22	3.5	3.2	2.48	4.06	38.70
18	6.94	<2	4	20	3.2	2.8	2.52	4.14	39.40
19	6.91	<2	3	22	3.7	3.3	2.57	4.22	40.23
20	6.60	<2	3	20	3.8	3.4	2.63	4.31	41.07
21	6.76	<2	3	20	3.6	3.6	2.69	4.41	41.96
22	6.36	2	<2	16	3.2	2.7	2.73	4.48	42.63
23	6.64	<2	2	18	4.0	3.6	2.79	4.57	43.53
24	6.35	2	<2	18	3.9	3.4	2.84	4.66	44.37
25	6.41	<2	<2	15	3.6	3.3	2.89	4.74	45.18
26	6.23	2	<2	16	3.1	2.7	2.93	4.81	45.83
27	6.38	3	<2	17	3.6	3.3	2.99	4.90	46.65
28	6.33	<2	<2	16	3.5	3.1	3.03	4.98	47.41
29	6.45	<2	<2	18	3.4	3.4	3.09	5.07	48.25
30	6.35	3	2	16	3.8	3.2	3.14	5.15	49.05
31	6.30	<2	<2	19	3.9	3.9	3.20	5.25	50.02
32	6.17	<2	<2	18	3.6	3.5	3.26	5.34	50.89
33	6.28	<2	<2	18	3.4	3.2	3.31	5.43	51.68
34	6.61	<2	3	21	4.0	4.0	3.37	5.53	52.66
35	6.12	<2	<2	18	3.8	3.3	3.42	5.61	53.47
36	6.20	2	<2	20	4.1	4.0	3.49	5.72	54.47
37	6.08	3	<2	20	5.1	5.0	3.57	5.85	55.72
38	5.87	3	<2	20	4.4	4.4	3.63	5.96	56.80
39	6.03	5	<2	20	5.3	5.2	3.72	6.10	58.10
40	6.15	3	<2	21	5.2	5.2	3.80	6.23	59.37
41	5.93	3	<2	19	4.5	4.2	3.87	6.34	60.41
42	5.94	4	<2	19	4.0	4.0	3.93	6.45	61.40
43	5.93	4	<2	19	4.5	4.4	4.00	6.56	62.50
44	5.70	5	<2	20	4.5	3.8	4.06	6.66	63.45
45	6.04	3	<2	23	5.3	5.3	4.14	6.80	64.76
46	6.06	5	<2	20	6.1	6.0	4.24	6.96	66.25
47	5.95	5	<2	25	6.7	6.2	4.34	7.12	67.79
48	6.05	3	<2	19	3.6	3.2	4.39	7.20	68.58
49	5.92	4	<2	17	3.8	3.3	4.44	7.29	69.41
50	6.07	3	<2	19	3.9	3.4	4.50	7.38	70.26
51	5.86	4	<2	16	6.7	5.7	4.59	7.52	71.67
52	5.88	4	<2	18	3.8	3.5	4.64	7.62	72.53
53	5.84	4	<2	17	4.1	3.6	4.70	7.71	73.43
54	5.76	4	<2	18	5.2	4.5	4.77	7.83	74.56
55	5.93	3	<2	18	3.5	3.3	4.82	7.91	75.38
56	5.72	4	<2	15	3.3	2.9	4.87	7.99	76.08
57	5.93	4	<2	18	4.5	4.1	4.93	8.10	77.10
58	5.56	3	<2	17	4.3	3.8	4.99	8.19	78.05
59	5.78	5	<2	16	3.2	2.7	5.04	8.27	78.72
60	5.57	4	<2	14	3.2	2.8	5.08	8.34	79.42
61	5.83	5	<2	17	4.1	3.9	5.15	8.44	80.39
62	5.74	4	<2	14	5.2	4.4	5.22	8.56	81.50
63	5.67	4	<2	15	3.7	3.2	5.27	8.64	82.30
64	5.73	5	<2	17	4.8	4.4	5.34	8.76	83.39
65	5.70	5	<2	15	3.6	3.1	5.39	8.84	84.16

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Week	pH	Acidity	Alkalinity	Conductivity	SO_4	SO_4 Prod Rate	Cumulative $S^=$ Depl	Cumulative NP Depl	Cumulative CO_3 NP Depl
	units	$CaCO_3$ eq. mg/L	$CaCO_3$ eq. mg/L	µS/cm	mg/L	g/t/wk	%	%	%
66	5.77	4	<2	17	6.0	5.2	5.47	8.97	85.44
67	5.37	4	<2	18	4.4	4.1	5.53	9.08	86.45
68	5.67	5	<2	17	4.1	3.8	5.59	9.17	87.38
69	5.76	5	<2	14	4.5	3.9	5.65	9.28	88.36
70	5.67	5	<2	16	4.1	3.8	5.71	9.38	89.29
71	5.74	5	<2	15	3.8	3.4	5.77	9.46	90.14
72	5.51	6	<2	16	4.1	3.6	5.83	9.56	91.04
73	5.80	5	<2	15	3.4	3.0	5.87	9.64	91.78
74	5.68	5	<2	17	4.0	3.4	5.93	9.73	92.63
75	5.76	6	<2	17	4.0	3.4	5.98	9.82	93.48
76	5.96	5	<2	25	6.8	6.0	6.08	9.97	94.96
77	5.88	5	<2	18	6.0	5.1	6.16	10.10	96.22
78	5.77	6	<2	20	4.4	4.4	6.23	10.22	97.30
79	6.03	3	<2	20	4.1	3.7	6.29	10.31	98.23
80	5.78	6	<2	17	5.7	5.3	6.37	10.45	99.54
81	5.53	6	<2	17	4.0	3.4	6.43	10.54	100.40
82	5.74	5	<2	17	3.7	3.5	6.48	10.63	101.28
83	5.91	6	<2	20	5.4	5.3	6.57	10.77	102.60
84	5.94	5	<2	18	4.6	4.5	6.64	10.89	103.71
85	5.82	5	<2	17	3.4	3.0	6.69	10.97	104.46
86	5.77	5	<2	16	4.0	3.9	6.75	11.07	105.44
87	5.79	5	<2	16	4.5	4.4	6.82	11.19	106.53
88	5.74	5	<2	21	3.5	3.4	6.87	11.28	107.38
89	5.73	4	<2	15	3.4	3.4	6.93	11.36	108.22
90	5.82	4	<2	14	5.1	5.1	7.01	11.49	109.48
91	5.84	<2	<2	14	5.1	4.9	7.08	11.62	110.70
92	5.64	6	<2	4	4.9	4.5	7.16	11.74	111.81
93	5.77	6	<2	4	4.4	4.3	7.22	11.85	112.88
94	5.53	6	<2	19	4.4	4.3	7.29	11.96	113.95
95	5.90	5	<2	18	4.6	4.6	7.36	12.08	115.07
96	5.82	5	<2	4	4.4	4.3	7.43	12.20	116.15
97	5.76	5	<2	14	4.6	4.4	7.50	12.31	117.25
98	5.81	5	<2	12	3.6	3.6	7.56	12.40	118.13
99	5.87	4	<2	4	3.7	3.7	7.62	12.50	119.04
100	5.82	5	<2	14	4.3	4.1	7.68	12.61	120.06
101	5.74	4	<2	16	4.0	3.9	7.75	12.71	121.03
102	5.95	4	<2	15	3.6	3.4	7.80	12.80	121.89
103	5.91	6	<2	16	4.9	4.8	7.88	12.92	123.07
104	5.68	6	<2	17	4.3	4.2	7.94	13.03	124.12
105	5.93	4	<2	16	3.7	3.7	8.00	13.13	125.02
106	5.83	5	<2	15	3.8	3.8	8.06	13.23	125.96
107	5.71	5	<2	16	3.7	3.7	8.12	13.32	126.87
108	5.65	5	<2	15	3.7	3.6	8.18	13.42	127.76
109	5.72	4	<2	16	4.0	3.9	8.24	13.52	128.74
110	5.86	4	<2	13	3.7	3.7	8.30	13.61	129.65
111	5.76	3	<2	15	3.2	3.0	8.35	13.69	130.39
112	5.80	3	<2	14	4.6	4.6	8.42	13.81	131.53
113	5.86	3	<2	10	3.6	3.5	8.47	13.90	132.40
114	5.77	4	<2	12	3.7	3.6	8.53	14.00	133.29
115	5.72	4	<2	14	3.1	3.1	8.58	14.08	134.05
116	5.74	3	<2	15	3.2	3.1	8.63	14.16	134.82
117	5.79	4	<2	11	4.5	4.3	8.70	14.27	135.90
118	5.87	2	<2	14	2.8	2.7	8.74	14.34	136.57
119	5.75	3	<2	15	4.3	4.2	8.81	14.45	137.61
120	5.74	<2	<2	3	4.4	4.3	8.88	14.56	138.68
121	5.50	4	<2	15	2.9	2.8	8.92	14.64	139.38
122	5.63	<2	<2	13	4.0	3.9	8.98	14.74	140.35
123	5.56	5	<2	20	2.8	2.7	9.03	14.81	141.02
124	5.75	3	<2	10	4.9	4.8	9.10	14.93	142.21
125	5.86	3	<2	12	3.2	3.1	9.15	15.01	142.99
126	5.70	4	<2	9	3.0	2.9	9.20	15.09	143.71
127	5.73	4	<2	12	4.0	3.9	9.26	15.19	144.68
128	5.54	6	<2	3	3.1	3.1	9.31	15.27	145.45
129	5.61	5	<2	14	3.2	3.1	9.36	15.35	146.22
130	5.80	4	<2	14	4.2	4.1	9.42	15.46	147.24
131	5.69	2	<2	14	3.3	3.3	9.48	15.55	148.05
132	5.32	<2	3	23	3.4	3.3	9.53	15.63	148.87
133	5.81	3	<2	15	4.0	3.9	9.59	15.73	149.83
134	5.78	4	<2	12	3.7	3.7	9.65	15.83	150.74

Continued on next page

Week	pH	Acidity	Alkalinity	Conductivity	SO_4	SO_4 Prod Rate	Cumulative $S^=$ Depl	Cumulative NP Depl	Cumulative CO_3 NP Depl
	units	$CaCO_3$ eq. mg/L	$CaCO_3$ eq. mg/L	µS/cm	mg/L	g/t/wk	%	%	%
135	5.67	4	<2	15	3.5	3.4	9.70	15.92	151.58
136	5.76	5	<2	11	3.3	3.2	9.75	16.00	152.37
137	5.79	4	<2	13	3.3	3.2	9.80	16.08	153.16
138	5.64	4	<2	11	3.7	3.6	9.86	16.18	154.06
139	5.47	5	<2	14	4.0	4.0	9.92	16.28	155.04
140	5.75	4	<2	19	3.5	3.4	9.98	16.37	155.88
141	5.61	5	<2	15	3.7	3.7	10.03	16.46	156.79
142	5.73	6	<2	15	3.8	3.6	10.09	16.56	157.68
143	5.75	3	<2	15	6.3	6.1	10.19	16.71	159.18
144	5.43	4	<2	12	3.5	3.3	10.24	16.80	160.01
145	5.81	5	<2	12	3.7	3.6	10.30	16.90	160.91
146	5.97	<2	<2	16	5.5	5.3	10.38	17.03	162.22
147	5.72	4	<2	18	4.4	4.3	10.45	17.15	163.29
148	5.78	5	<2	15	3.7	3.6	10.51	17.24	164.19
149	5.71	8	<2	16	3.6	3.5	10.56	17.33	165.06
150	5.71	5	<2	12	3.6	3.5	10.62	17.42	165.93
151	5.89	5	<2	16	3.2	3.1	10.67	17.50	166.71
152	5.87	5	<2	15	3.4	3.3	10.72	17.59	167.54
153	5.94	5	<2	20	3.6	3.5	10.78	17.68	168.42
154	5.48	6	<2	14	3.4	3.3	10.83	17.77	169.23
155	5.61	6	<2	16	4.4	4.3	10.90	17.88	170.30
156	5.52	7	<2	17	4.7	4.6	10.97	18.00	171.44
157	5.55	4	<2	16	4.9	4.8	11.05	18.13	172.62
158	5.60	4	<2	17	4.9	4.9	11.13	18.25	173.83
159	5.59	4	<2	15	3.4	3.2	11.18	18.34	174.63
160	5.72	3	<2	18	3.4	3.3	11.23	18.42	175.46
161	5.67	5	<2	20	4.3	4.2	11.30	18.53	176.49
162	5.78	3	<2	16	3.2	3.2	11.35	18.61	177.28
163	5.30	4	<2	18	3.3	3.1	11.40	18.70	178.05
164	5.65	7	<2	16	3.0	2.9	11.44	18.77	178.77
165	5.99	2	<2	17	4.3	4.2	11.51	18.88	179.83
166	5.95	4	<2	18	3.2	3.0	11.56	18.96	180.58
167	5.66	6	<2	21	3.3	3.2	11.61	19.04	181.37
168	5.76	3	<2	15	4.4	4.4	11.68	19.16	182.45
169	5.62	4	<2	16	4.2	4.0	11.74	19.26	183.44
170	5.37	4	<2	21	3.6	3.5	11.80	19.35	184.32
171	6.07	4	<2	24	3.8	3.8	11.86	19.45	185.25
172	5.97	4	<2	22	3.3	3.0	11.90	19.53	186.01
173	5.44	5	<2	25	3.0	2.9	11.95	19.61	186.73
174	6.18	<2	<2	14	2.7	2.6	11.99	19.67	187.38
175	5.75	4	<2	19	7.0	6.9	12.10	19.86	189.10
176	6.05	<2	<2	18	3.4	3.3	12.15	19.94	189.92
177	5.72	5	<2	25	3.6	3.4	12.21	20.03	190.76
178	5.81	3	<2	19	3.8	3.7	12.27	20.13	191.68
179	5.72	3	<2	16	3.1	3.1	12.32	20.21	192.45
180	5.80	<2	<2	17	3.5	3.5	12.37	20.30	193.31
181	5.92	2	<2	17	3.0	3.0	12.42	20.37	194.04
182	5.93	3	<2	17	3.9	3.9	12.48	20.47	195.00
183	5.80	5	<2	20	5.0	4.9	12.56	20.60	196.21
184	5.51	4	<2	18	3.1	3.1	12.61	20.68	196.97
185	5.26	4	<2	16	3.3	3.2	12.66	20.76	197.76
186	5.71	5	<2	20	3.4	3.3	12.71	20.85	198.59
187	5.76	7	<2	19	2.9	2.9	12.76	20.93	199.30
188	5.42	7	<2	23	4.4	4.3	12.82	21.04	200.37
189	6.12	6	<2	20	3.0	2.9	12.87	21.12	201.10
190	5.78	4	<2	16	3.0	2.8	12.92	21.19	201.81
191	5.89	4	<2	18	2.8	2.7	12.96	21.26	202.49
192	6.02	4	<2	16	3.2	3.1	13.01	21.34	203.27
193	5.69	4	<2	18	2.7	2.6	13.05	21.41	203.91
194	5.87	<2	<2	14	3.2	3.2	13.10	21.49	204.69
195	4.72	8	<2	40	6.0	5.9	13.19	21.65	206.15
196	5.48	4	<2	16	2.8	2.7	13.24	21.72	206.82
197	5.76	3	<2	16	2.9	2.9	13.28	21.79	207.53
198	5.59	4	<2	16	3.1	3.0	13.33	21.87	208.28
199	5.25	5	<2	19	3.0	2.9	13.38	21.95	209.01
200	5.84	5	<2	15	3.3	3.3	13.43	22.03	209.82
201	5.89	2	<2	16	5.9	5.8	13.52	22.18	211.25
202	5.21	5	<2	17	4.8	4.7	13.59	22.30	212.42

Table 16: Humidity Cell Test – Dissolved Metals Concentrations – Cyclone U/F - Untreated

Parameter	Units	0	1	2	3	4	5	10	15	20	25	30	35
pH	units	7.15	7.41	7.39	7.52	7.33	7.26	6.99	6.98	6.60	6.41	6.35	6.12
Hg	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ag	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00001	< 0.00001	< 0.00001
Al	mg/L	0.04	0.02	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.02
As	mg/L	0.0013	0.0006	0.0007	0.0008	0.0005	0.0003	0.0020	0.0003	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Ca	mg/L	32.3	13.2	9.55	8.00	7.81	8.08	5.89	3.62	3.13	2.50	2.11	1.82
Cd	mg/L	< 0.000003	< 0.000003	0.000018	0.000018	0.000012	0.000040	0.000022	0.000022	0.000056	0.000175	0.000270	0.000424
Cu	mg/L	0.0138	0.0110	0.0092	0.0085	0.0087	0.0092	0.0158	0.0282	0.0503	0.0679	0.198	0.434
Fe	mg/L	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
K	mg/L	12.8	4.09	2.17	1.43	1.17	1.10	0.65	0.39	0.37	0.30	0.28	0.22
Mg	mg/L	3.00	0.946	0.569	0.416	0.362	0.330	0.174	0.103	0.098	0.098	0.082	0.066
Mn	mg/L	0.0431	0.0234	0.0185	0.0150	0.0150	0.0141	0.0150	0.0148	0.0227	0.0333	0.0341	0.0285
Na	mg/L	5.63	0.59	0.10	0.04	0.02	0.03	0.01	< 0.01	< 0.01	0.07	< 0.01	0.01
Ni	mg/L	0.0005	0.0004	0.0003	0.0003	< 0.0001	0.0003	0.0003	0.0004	0.0012	0.0010	0.0033	0.0029
Pb	mg/L	0.00004	0.00002	< 0.00002	0.00004	0.00005	0.00016	0.00003	< 0.00002	< 0.00002	0.00002	0.00022	0.00009
Si	mg/L	0.94	1.56	1.35	1.23	1.26	1.20	1.00	0.68	0.91	0.93	0.91	0.67
Zn	mg/L	0.003	0.003	0.003	0.004	0.002	0.004	0.003	0.005	0.011	0.027	0.055	0.082

Table 16 Continued: Humidity Cell Test – Dissolved Metals Concentrations – Cyclone U/F - Untreated

Parameter	Units	40	45	50	55	60	65	70	75	80	85	90	95
pH	units	6.15	6.04	6.07	5.93	5.57	5.70	5.67	5.76	5.78	5.82	5.82	5.90
Hg	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ag	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Al	mg/L	0.07	0.12	0.10	0.11	0.08	0.13	0.12	0.18	0.12	0.10	0.11	0.15
As	mg/L	0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Ca	mg/L	2.17	2.27	1.67	1.47	1.22	0.99	1.28	1.30	1.22	1.24	1.09	1.33
Cd	mg/L	0.000653	0.000773	0.000503	0.000488	0.000326	0.000309	0.000319	0.000326	0.000275	0.000491	0.000202	0.000214
Cu	mg/L	0.859	1.36	1.23	1.33	1.15	1.47	1.52	1.75	1.82	1.67	1.60	1.86
Fe	mg/L	< 0.01	< 0.01	< 0.002	< 0.002	0.008	0.023	< 0.002	< 0.002	0.008	0.006	0.004	0.003
K	mg/L	0.29	0.28	0.175	0.145	0.135	0.118	0.125	0.146	0.157	0.150	0.126	0.154
Mg	mg/L	0.065	0.054	0.030	0.021	0.017	0.004	0.016	0.012	0.012	0.011	0.008	0.009
Mn	mg/L	0.0262	0.0228	0.0120	0.00933	0.00666	0.00542	0.00553	0.00485	0.00437	0.00493	0.00274	0.00326
Na	mg/L	< 0.01	< 0.01	0.01	< 0.01	< 0.01	< 0.01	0.01	< 0.01	0.01	0.01	0.01	< 0.01
Ni	mg/L	0.0038	0.0049	0.0029	0.0027	0.0027	0.0020	0.0019	0.0020	0.0087	0.0021	0.0012	0.0017
Pb	mg/L	0.00040	0.00010	0.00050	0.00013	0.00004	0.00003	0.00003	0.00022	0.00002	0.00015	0.00002	0.00007
Si	mg/L	0.85	0.78	0.48	0.29	0.33	0.31	0.33	0.33	0.33	0.32	0.28	0.37
Zn	mg/L	0.109	0.108	0.072	0.074	0.059	0.058	0.066	0.064	0.060	0.045	0.037	0.046

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Table 16 Continued: Humidity Cell Test – Dissolved Metals Concentrations – Cyclone U/F - Untreated

Parameter	Units	100	105	110	115	120	125	130	135	140	145	150
pH	units	5.82	5.93	5.86	5.72	5.74	5.86	5.80	5.67	5.75	5.81	5.71
Hg	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ag	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Al	mg/L	0.10	0.12	0.09	0.09	0.07	0.09	0.09	0.10	0.09	0.11	0.07
As	mg/L	< 0.0002	0.0003	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	0.0002	< 0.0002	< 0.0002	< 0.0002
Ca	mg/L	1.17	1.31	1.11	1.13	0.90	1.06	0.97	0.97	0.99	1.15	1.01
Cd	mg/L	0.000185	*0.000149	0.000305	0.000299	0.000110	0.000107	0.000113	0.000164	0.000077	0.000193	0.000066
Cu	mg/L	1.75	1.60	1.61	1.50	1.43	1.51	1.58	1.55	1.46	1.79	1.52
Fe	mg/L	0.012	0.031	< 0.002	< 0.002	< 0.002	< 0.002	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003
K	mg/L	0.148	0.129	0.130	0.121	0.102	0.117	0.108	0.118	0.114	0.138	0.112
Mg	mg/L	0.009	*0.008	0.008	0.006	0.002	0.007	0.005	0.007	0.007	0.008	0.007
Mn	mg/L	0.00261	*0.00249	0.00355	0.00343	0.00160	0.00167	0.00170	0.00243	0.00271	0.00259	0.00165
Na	mg/L	< 0.01	0.01	< 0.01	< 0.01	< 0.01	0.01	< 0.01	0.01	0.01	< 0.01	0.01
Ni	mg/L	0.0015	0.0024	0.0010	0.0009	0.0007	0.0009	0.0011	0.001	0.0007	0.0010	0.0009
Pb	mg/L	0.00003	*<0.00002	< 0.00002	0.00031	< 0.00002	< 0.00002	< 0.00002	0.00014	0.00009	0.00011	< 0.00002
Si	mg/L	0.31	0.27	0.23	0.20	0.20	0.23	0.18	0.22	0.20	0.23	0.19
Zn	mg/L	0.039	*0.023	0.032	0.032	0.013	0.026	0.024	0.024	0.024	0.027	0.023

Table 16 Continued: Humidity Cell Test – Dissolved Metals Concentrations – Cyclone U/F - Untreated

Parameter	Units	155	160	165	170	175	180	185	190	195	200
pH	units	5.61	5.72	5.99	5.37	5.75	5.80	5.26	5.78	4.72	5.84
Hg	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.00001	0.00001	< 0.00001	< 0.00001
Ag	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Al	mg/L	0.11	0.08	0.08	0.07	0.05	0.08	0.05	0.06	0.07	0.06
As	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	0.0002	0.0003	0.0002
Ca	mg/L	1.31	1.11	1.24	1.31	1.23	1.26	1.12	1.09	1.06	1.18
Cd	mg/L	0.000064	0.000050	0.000070	0.000080	0.000060	0.000066	0.000068	0.000058	0.000051	0.000056
Cu	mg/L	1.74	1.72	1.65	1.95	1.52	1.68	1.36	1.57	1.60	1.71
Fe	mg/L	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	0.026	0.027	0.005	< 0.003
K	mg/L	0.146	0.143	0.159	0.184	0.154	0.154	0.138	0.135	0.142	0.152
Mg	mg/L	0.010	0.007	0.008	0.008	0.007	0.008	0.011	0.007	0.007	0.007
Mn	mg/L	0.00277	0.00164	0.00173	0.00200	0.00166	0.00191	0.00166	0.00142	0.00150	0.00162
Na	mg/L	0.01	0.02	0.02	< 0.01	0.01	0.02	0.01	0.01	0.01	0.02
Ni	mg/L	0.0014	0.0010	0.0010	0.0011	0.0009	0.0010	0.0009	0.0009	0.0007	0.0017
Pb	mg/L	0.00003	< 0.00002	< 0.00002	0.00002	0.00005	0.00055	0.00007	0.00003	0.00002	0.00004
Si	mg/L	0.25	0.19	0.24	0.21	0.22	0.21	0.13	0.14	0.15	0.17
Zn	mg/L	0.026	0.022	0.023	0.024	0.02	0.021	0.018	0.017	0.017	0.018

Table 17: Humidity Cell Test Weekly Leachate Results and Cumulative Depletion Rates – Cyclone U/F - Desulphidized

Week	pH	Acidity	Alkalinity	Conductivity	SO_4	SO_4 Prod Rate	Cumulative $S^=$ Depl	Cumulative NP Depl	Cumulative CO_3 NP Depl
	units	$CaCO_3$ eq. mg/L	$CaCO_3$ eq. mg/L	µS/cm	mg/L	g/t/wk	%	%	%
0	7.41	<2	7	101	22	13.0	0.87	0.36	3.67
1	7.50	<2	21	75	12	11.5	1.64	0.67	6.91
2	7.54	<2	18	58	5.0	4.9	1.96	0.81	8.30
3	7.64	<2	16	51	5.0	5.0	2.30	0.94	9.70
4	7.39	<2	16	46	5.3	5.2	2.64	1.09	11.16
5	7.39	<2	16	27	4.9	4.8	2.96	1.22	12.51
6	7.14	<2	14	42	3.9	3.9	3.22	1.32	13.60
7	7.04	<2	13	39	3.8	3.8	3.47	1.43	14.66
8	7.40	<2	13	36	3.1	3.0	3.68	1.51	15.52
9	7.50	<2	12	34	2.6	2.6	3.85	1.58	16.25
10	7.24	<2	12	35	2.7	2.7	4.03	1.66	17.00
11	7.07	<2	12	39	5.0	5.0	4.36	1.79	18.41
12	6.75	<2	11	32	2.2	2.1	4.50	1.85	19.01
13	7.06	<2	9	26	2.0	1.8	4.62	1.90	19.51
14	6.82	<2	8	25	1.9	1.7	4.73	1.94	19.97
15	7.37	<2	9	31	1.8	1.6	4.83	1.99	20.42
16	7.30	<2	8	23	1.7	1.5	4.94	2.03	20.84
17	7.15	<2	7	22	1.5	1.3	5.02	2.07	21.22
18	7.24	<2	7	21	1.5	1.3	5.11	2.10	21.59
19	7.22	<2	8	21	1.7	1.5	5.21	2.14	22.02
20	6.96	<2	6	22	1.7	1.5	5.31	2.18	22.43
21	7.14	<2	6	21	1.8	1.6	5.42	2.23	22.87
22	7.00	<2	5	19	1.7	1.5	5.51	2.27	23.28
23	7.05	<2	12	17	1.8	1.6	5.62	2.31	23.74
24	6.96	<2	5	19	1.8	1.6	5.73	2.35	24.18
25	6.98	<2	4	16	1.4	1.2	5.81	2.39	24.53
26	6.91	<2	4	17	1.5	1.3	5.89	2.42	24.89
27	6.87	<2	4	16	1.4	1.2	5.98	2.46	25.24
28	6.83	<2	4	14	1.5	1.4	6.07	2.49	25.62
29	6.92	<2	4	15	1.3	1.1	6.14	2.52	25.93
30	7.00	<2	6	14	1.5	1.3	6.22	2.56	26.29
31	6.76	<2	4	16	1.5	1.4	6.32	2.60	26.69
32	6.69	<2	3	14	1.3	1.2	6.40	2.63	27.02
33	6.83	<2	4	15	1.3	1.2	6.48	2.66	27.36
34	7.04	<2	4	15	1.4	1.3	6.57	2.70	27.73
35	6.70	<2	3	14	1.2	1.1	6.64	2.73	28.03
36	6.82	<2	3	14	1.3	1.2	6.72	2.76	28.38
37	6.49	<2	2	14	1.2	1.1	6.80	2.79	28.70
38	6.45	<2	3	14	1.3	1.3	6.88	2.83	29.06
39	6.51	2	<2	13	1.3	1.1	6.95	2.86	29.37
40	6.52	<2	<2	13	1.3	1.1	7.03	2.89	29.67
41	6.47	<2	2	12	1.2	1.0	7.10	2.92	29.96
42	6.52	<2	<2	12	1.1	1.1	7.17	2.95	30.26
43	6.48	<2	<2	12	1.2	1.1	7.24	2.98	30.57
44	6.36	<2	<2	12	1.2	1.0	7.30	3.00	30.85
45	6.58	<2	2	14	1.3	1.1	7.38	3.03	31.16
46	6.51	<2	<2	12	1.5	1.3	7.47	3.07	31.53
47	6.75	<2	3	19	1.3	1.2	7.54	3.10	31.86
48	6.53	<2	<2	12	1.0	0.9	7.60	3.13	32.11
49	6.49	<2	<2	13	1.2	1.0	7.67	3.15	32.39
50	6.35	<2	<2	13	1.0	0.9	7.73	3.18	32.64
51	6.23	<2	<2	13	1.5	1.3	7.82	3.21	33.00
52	6.25	<2	<2	11	1.0	0.9	7.87	3.24	33.25
53	6.30	<2	<2	11	1.1	1.0	7.94	3.26	33.52
54	6.30	<2	<2	11	1.0	0.9	7.99	3.29	33.76
55	6.36	<2	<2	12	1.2	1.0	8.06	3.32	34.06
56	6.49	<2	<2	12	1.0	1.0	8.13	3.34	34.32
57	6.30	<2	<2	11	1.6	1.4	8.22	3.38	34.72
58	5.93	<2	<2	12	1.1	1.0	8.29	3.41	34.99
59	6.30	<2	<2	11	0.9	0.8	8.34	3.43	35.21
60	6.10	2	<2	8	1.0	0.9	8.40	3.45	35.46
61	6.18	<2	<2	13	0.9	0.8	8.45	3.47	35.69

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Week	pH	Acidity	Alkalinity	Conductivity	SO_4	SO_4 Prod Rate	Cumulative $S^=$ Depl	Cumulative NP Depl	Cumulative CO_3 NP Depl
	units	$CaCO_3$ eq. mg/L	$CaCO_3$ eq. mg/L	µS/cm	mg/L	g/t/wk	%	%	%
62	6.26	<2	<2	11	1.5	1.4	8.54	3.51	36.08
63	6.24	<2	<2	11	1.0	0.9	8.60	3.54	36.34
64	6.42	<2	<2	15	0.9	0.9	8.66	3.56	36.58
65	6.18	3	<2	10	0.9	0.8	8.71	3.58	36.80
66	6.12	<2	<2	10	1.1	1.0	8.78	3.61	37.07
67	6.53	<2	2	11	0.9	0.8	8.83	3.63	37.30
68	6.30	<2	<2	10	0.9	0.8	8.88	3.65	37.52
69	6.25	<2	<2	10	1.0	0.9	8.94	3.68	37.77
70	6.04	4	<2	8	0.8	0.8	9.00	3.70	37.99
71	6.14	2	<2	8	0.9	0.8	9.05	3.72	38.22
72	6.04	3	<2	8	0.8	0.7	9.10	3.74	38.42
73	6.09	3	<2	6	0.9	0.9	9.15	3.76	38.66
74	6.06	<2	<2	11	1.0	0.9	9.21	3.79	38.91
75	5.99	<2	<2	10	0.9	0.8	9.26	3.81	39.13
76	6.24	<2	<2	14	1.3	1.1	9.34	3.84	39.45
77	6.24	<2	<2	10	1.1	1.0	9.41	3.87	39.72
78	6.26	<2	<2	9	0.9	0.8	9.46	3.89	39.95
79	6.06	<2	<2	9	0.8	0.7	9.51	3.91	40.15
80	6.18	<2	<2	8	0.8	0.7	9.56	3.93	40.35
81	5.75	3	<2	7	0.8	0.7	9.60	3.95	40.55
82	6.10	3	<2	7	0.8	0.8	9.66	3.97	40.78
83	6.11	<2	<2	6	0.8	0.7	9.70	3.99	40.98
84	6.19	<2	<2	8	0.9	0.9	9.76	4.01	41.22
85	6.05	2	<2	7	0.8	0.8	9.81	4.04	41.44
86	6.00	2	<2	10	0.9	0.9	9.87	4.06	41.69
87	6.07	<2	<2	8	1.0	0.9	9.93	4.08	41.94
88	6.13	2	<2	6	0.8	0.7	9.98	4.10	42.13
89	6.02	<2	<2	6	0.9	0.8	10.03	4.12	42.36
90	6.41	<2	<2	9	0.8	0.8	10.08	4.15	42.57
91	5.90	4	<2	3	1.2	1.2	10.16	4.18	42.90
92	6.20	6	<2	3	0.9	0.8	10.21	4.20	43.13
93	5.99	3	3	3	0.8	0.8	10.26	4.22	43.35
94	6.02	3	<2	8	0.8	0.8	10.32	4.24	43.57
95	6.09	<2	<2	8	0.9	0.9	10.37	4.27	43.81
96	5.96	2	<2	3	0.7	0.6	10.42	4.28	43.99
97	6.08	<2	<2	2	1.0	1.0	10.48	4.31	44.26
98	6.08	<2	<2	2	0.6	0.6	10.52	4.33	44.42
99	6.07	2	<2	3	0.7	0.7	10.57	4.34	44.62
100	6.18	2	<2	8	0.8	0.8	10.62	4.37	44.83
101	6.18	<2	<2	8	0.9	0.9	10.68	4.39	45.09
102	6.10	2	<2	7	0.8	0.7	10.73	4.41	45.29
103	6.04	3	<2	7	0.7	0.7	10.77	4.43	45.49
104	6.00	3	<2	7	0.8	0.8	10.82	4.45	45.71
105	6.08	<2	<2	7	0.7	0.7	10.87	4.47	45.91
106	6.03	<2	<2	6	0.7	0.7	10.92	4.49	46.10
107	5.97	2	<2	6	0.7	0.7	10.96	4.51	46.29
108	6.09	<2	<2	6	0.8	0.8	11.01	4.53	46.51
109	5.80	<2	2	5	0.6	0.6	11.05	4.55	46.68
110	6.02	<2	<2	6	0.8	0.8	11.11	4.57	46.90
111	6.09	<2	<2	7	0.6	0.6	11.15	4.58	47.07
112	5.97	<2	<2	6	1.1	1.1	11.22	4.61	47.38
113	6.09	<2	<2	7	0.8	0.8	11.27	4.63	47.60
114	6.02	3	2	5	0.6	0.6	11.31	4.65	47.77
115	6.24	<2	2	7	0.6	0.6	11.35	4.67	47.93
116	6.02	<2	<2	6	0.6	0.6	11.39	4.68	48.10
117	6.16	2	<2	2	1.0	1.0	11.46	4.71	48.37
118	6.01	<2	<2	6	0.6	0.6	11.49	4.73	48.54
119	5.96	2	<2	7	1.0	1.0	11.56	4.75	48.82
120	6.02	<2	<2	2	1.0	1.0	11.63	4.78	49.10
121	6.00	<2	<2	2	0.6	0.6	11.67	4.80	49.27
122	6.01	<2	<2	15	0.7	0.7	11.71	4.81	49.45
123	6.04	<2	<2	8	0.6	0.6	11.75	4.83	49.62
124	5.94	<2	<2	2	1.3	1.2	11.83	4.87	49.97
125	6.00	<2	<2	3	0.7	0.7	11.88	4.89	50.17
126	5.97	<2	<2	<2	0.6	0.6	11.92	4.90	50.34

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Week	pH	Acidity	Alkalinity	Conductivity	SO_4	SO_4 Prod Rate	Cumulative $S^=$ Depl	Cumulative NP Depl	Cumulative CO_3 NP Depl
	units	$CaCO_3$ eq. mg/L	$CaCO_3$ eq. mg/L	µS/cm	mg/L	g/t/wk	%	%	%
127	5.90	<2	<2	2	0.7	0.7	11.96	4.92	50.52
128	5.79	4	<2	2	0.7	0.7	12.01	4.94	50.72
129	5.93	3	<2	7	0.6	0.6	12.05	4.95	50.89
130	5.96	<2	<2	2	0.6	0.6	12.09	4.97	51.06
131	6.00	<2	<2	2	0.6	0.6	12.13	4.99	51.22
132	5.89	<2	3	6	0.7	0.7	12.18	5.01	51.42
133	5.97	<2	<2	8	0.6	0.6	12.22	5.02	51.59
134	6.03	<2	<2	2	0.6	0.6	12.26	5.04	51.75
135	6.10	<2	<2	6	0.7	0.7	12.30	5.06	51.94
136	5.91	<2	<2	2	0.6	0.6	12.34	5.07	52.11
137	5.97	<2	<2	6	0.7	0.7	12.39	5.09	52.30
138	5.81	2	<2	2	0.8	0.8	12.44	5.11	52.52
139	5.77	3	<2	5	0.7	0.7	12.48	5.13	52.72
140	5.90	<2	<2	2	0.6	0.6	12.52	5.15	52.89
141	5.78	2	<2	6	0.8	0.8	12.58	5.17	53.11
142	5.87	2	<2	6	0.6	0.6	12.62	5.19	53.28
143	6.12	<2	<2	6	1.4	1.4	12.71	5.23	53.67
144	5.63	<2	<2	2	0.6	0.6	12.75	5.24	53.83
145	6.11	2	<2	2	0.7	0.7	12.79	5.26	54.03
146	6.07	<2	<2	2	1.2	1.2	12.87	5.29	54.36
147	5.85	<2	<2	2	0.8	0.8	12.93	5.31	54.58
148	5.92	<2	<2	6	0.8	0.8	12.98	5.34	54.81
149	6.10	3	<2	6	0.6	0.6	13.02	5.35	54.97
150	5.82	2	<2	2	0.6	0.6	13.06	5.37	55.14
151	5.52	3	<2	6	0.6	0.6	13.10	5.39	55.31
152	6.13	3	<2	6	0.6	0.6	13.14	5.40	55.48
153	5.91	3	<2	12	0.7	0.7	13.18	5.42	55.68
154	5.70	2	<2	7	0.6	0.6	13.22	5.44	55.84
155	5.63	2	<2	5	0.7	0.7	13.27	5.46	56.04
156	5.52	5	<2	5	0.6	0.6	13.31	5.47	56.21
157	5.72	<2	<2	5	1.0	1.0	13.38	5.50	56.49
158	5.70	3	<2	13	0.9	0.9	13.44	5.53	56.75
159	5.70	2	<2	5	0.6	0.6	13.48	5.54	56.91
160	5.87	<2	<2	6	0.6	0.6	13.52	5.56	57.08
161	5.69	3	<2	8	0.8	0.8	13.57	5.58	57.31
162	5.88	<2	<2	6	0.6	0.6	13.61	5.60	57.47
163	5.46	<2	<2	6	0.6	0.6	13.65	5.61	57.64
164	5.84	<2	<2	6	0.6	0.6	13.69	5.63	57.81
165	5.86	<2	<2	5	0.7	0.7	13.74	5.65	58.01
166	5.66	2	<2	7	0.7	0.7	13.78	5.67	58.21
167	5.69	3	<2	11	0.6	0.6	13.82	5.68	58.37
168	5.75	2	<2	5	1.0	1.0	13.89	5.71	58.65
169	5.55	4	<2	11	0.7	0.7	13.94	5.73	58.85
170	5.90	<2	<2	5	0.6	0.6	13.98	5.75	59.02
171	5.21	<2	<2	12	0.7	0.7	14.02	5.76	59.21
172	5.82	<2	<2	5	0.6	0.6	14.06	5.78	59.37

Table 18: Humidity Cell Test – Dissolved Metals Concentrations – Cyclone U/F - Desulphidized

Parameter	Units	0	1	2	3	4	5	10	15	20	25
pH	units	7.41	7.50	7.54	7.64	7.39	7.39	7.24	*7.37	6.96	6.98
Hg	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ag	mg/L	< 0.00001	0.00002	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Al	mg/L	0.09	0.05	0.05	0.03	0.04	0.04	0.04	0.03	0.04	0.02
As	mg/L	0.0007	0.0009	0.0007	0.0007	0.0008	0.0003	0.0021	0.0006	0.0004	< 0.0002
Ca	mg/L	9.65	9.75	8.23	7.21	7.21	7.48	5.59	4.19	3.68	2.57
Cd	mg/L	< 0.000003	0.000012	< 0.000003	< 0.000003	< 0.000003	0.000004	< 0.000003	< 0.000003	< 0.000003	0.000020
Cu	mg/L	0.0055	0.0033	0.0023	0.0016	0.0015	0.0014	0.0017	0.0036	0.0043	0.0137
Fe	mg/L	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
K	mg/L	8.00	4.89	3.04	1.92	1.50	1.32	0.72	0.50	0.50	0.47
Mg	mg/L	0.988	0.887	0.638	0.490	0.442	0.410	0.212	0.140	0.128	0.111
Mn	mg/L	0.00618	0.00980	0.00820	0.00698	0.00712	0.00717	0.00618	0.00536	0.00715	0.0127
Na	mg/L	2.81	0.78	0.18	0.06	0.03	0.03	0.01	< 0.01	< 0.01	0.01
Ni	mg/L	0.0003	0.0003	0.0002	0.0002	0.0002	0.0002	0.0001	< 0.0001	0.0005	0.0004
Pb	mg/L	0.00016	0.00006	< 0.00002	0.00005	< 0.00002	0.00008	< 0.00002	0.00002	0.00003	0.00003
Si	mg/L	0.68	1.57	1.43	1.32	1.39	1.34	1.22	0.91	1.04	1.01
Zn	mg/L	0.002	0.001	0.001	0.002	< 0.001	0.001	0.002	0.002	0.002	0.003

Table 18 Continued: Humidity Cell Test – Dissolved Metals Concentrations – Cyclone U/F - Desulphidized

Parameter	Units	30	35	40	45	50	55	60	65	70	75
pH	units	7.00	6.70	6.52	6.58	6.35	6.36	6.10	6.18	6.04	5.99
Hg	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ag	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Al	mg/L	0.02	< 0.01	0.01	0.01	< 0.01	< 0.01	0.13	< 0.01	< 0.01	0.01
As	mg/L	< 0.0002	< 0.0002	< 0.0002	0.0006	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Ca	mg/L	2.09	1.55	1.63	1.65	1.54	1.39	1.33	0.92	1.17	1.16
Cd	mg/L	0.000015	0.000017	0.000036	0.000046	0.000063	0.000066	0.000088	0.000092	0.000082	0.000107
Cu	mg/L	0.0045	0.0088	0.0115	0.0125	0.0253	0.0850	0.0402	0.0545	0.0593	0.0648
Fe	mg/L	< 0.01	< 0.01	< 0.01	< 0.01	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
K	mg/L	0.48	0.37	0.44	0.42	0.333	0.302	0.280	0.218	0.191	0.225
Mg	mg/L	0.097	0.073	0.072	0.068	0.055	0.043	0.038	0.013	0.027	0.025
Mn	mg/L	0.0174	0.0215	0.0243	0.0244	0.0234	0.0207	0.0181	0.0146	0.0140	0.0114
Na	mg/L	< 0.01	< 0.01	< 0.01	< 0.01	0.02	< 0.01	0.01	< 0.01	0.02	0.02
Ni	mg/L	0.0007	0.0004	0.0007	0.0012	0.0014	0.0018	0.0023	0.0022	0.0021	0.0024
Pb	mg/L	0.00004	0.00004	0.00025	0.00005	< 0.00002	< 0.00002	< 0.00002	0.00002	< 0.00002	0.00041
Si	mg/L	1.01	0.77	0.92	0.83	0.65	0.45	0.56	0.44	0.43	0.42
Zn	mg/L	0.005	0.007	0.008	0.010	0.013	0.014	0.018	0.020	0.023	0.023

Continued on next page

Table 18 Continued: Humidity Cell Test – Dissolved Metals Concentrations – Cyclone U/F - Desulphidized

Parameter	Units	80	85	90	95	100	105	110	115	120	125
pH	units	6.18	6.05	6.41	6.09	6.18	6.08	6.02	6.24	6.02	6.00
Hg	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ag	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Al	mg/L	0.03	0.03	0.03	0.04	0.03	0.05	0.02	0.03	0.02	0.03
As	mg/L	0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	0.0002
Ca	mg/L	0.95	1.01	0.94	0.97	0.95	0.88	0.80	0.75	0.66	0.72
Cd	mg/L	0.000090	0.000166	0.000114	0.000100	0.000101	*0.000080	0.000096	0.000129	0.000076	0.000073
Cu	mg/L	0.0865	0.111	0.102	0.114	0.131	0.123	0.119	0.131	0.136	0.135
Fe	mg/L	0.003	< 0.002	0.002	< 0.002	< 0.002	0.005	0.002	< 0.002	< 0.002	< 0.002
K	mg/L	0.199	0.187	0.179	0.178	0.181	0.142	0.141	0.129	0.118	0.132
Mg	mg/L	0.022	0.019	0.018	0.017	0.016	0.021	0.014	0.011	0.007	0.011
Mn	mg/L	0.00923	0.00893	0.00745	0.00694	0.00584	*0.00488	0.00407	0.00398	0.00346	0.00329
Na	mg/L	0.02	0.02	0.03	0.02	0.02	0.02	0.02	0.02	0.03	0.02
Ni	mg/L	0.0034	0.0026	0.0026	0.0027	0.0025	0.0024	0.0020	0.0019	0.0017	0.0019
Pb	mg/L	< 0.00002	0.00005	< 0.00002	0.00003	< 0.00002	*0.00008	0.00005	0.00024	0.00006	< 0.00002
Si	mg/L	0.34	0.38	0.37	0.38	0.35	0.29	0.27	0.20	0.22	0.22
Zn	mg/L	0.021	0.023	0.022	0.023	0.023	0.034	0.019	0.018	0.014	0.016

Table 18 Continued: Humidity Cell Test – Dissolved Metals Concentrations – Cyclone U/F - Desulphidized

Parameter	Units	130	135	140	145	150	155	160	165	170
pH	units	5.96	6.10	5.90	6.11	5.82	5.63	5.87	5.86	5.90
Hg	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ag	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Al	mg/L	0.04	0.03	0.03	0.02	0.02	0.03	0.03	0.02	0.03
As	mg/L	0.0003	0.0003	0.0002	0.0003	0.0003	0.0002	< 0.0002	0.0002	0.0003
Ca	mg/L	0.71	0.67	0.67	0.70	0.59	0.67	0.58	0.55	0.55
Cd	mg/L	0.000068	0.000094	0.000058	0.000112	0.000036	0.000019	0.000015	0.000039	0.000039
Cu	mg/L	0.150	0.143	0.148	0.161	0.148	0.146	0.147	0.156	0.163
Fe	mg/L	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003
K	mg/L	0.120	0.122	0.115	0.130	0.095	0.104	0.103	0.101	0.111
Mg	mg/L	0.008	0.011	0.010	0.036	0.009	0.019	0.010	0.008	0.008
Mn	mg/L	0.00296	0.00314	0.00266	0.00305	0.00233	0.00276	0.00220	0.00207	0.00201
Na	mg/L	< 0.01	0.02	0.01	0.02	0.02	0.01	0.02	0.01	0.01
Ni	mg/L	0.0021	0.0018	0.0014	0.0018	0.0016	0.0018	0.0016	0.0015	0.0015
Pb	mg/L	< 0.00002	0.00005	0.00002	0.00005	< 0.00002	0.00004	0.00003	0.00005	< 0.00002
Si	mg/L	0.19	0.22	0.19	0.21	0.17	0.19	0.16	0.19	0.17
Zn	mg/L	0.016	0.014	0.014	0.015	0.012	0.013	0.013	0.013	0.012

8. Shake Flask Extraction – Price, 1997 – Humidity Cell Residue

Results of the shake flask extraction conducted on the humidity cell test residues are summarized in Table 19. Complete test results are included in Appendix A.

Table 19: Shake Flask Extraction Results – Humidity Cell Residues

Parameter	Unit	1st Cl Scav Tls	Whole Tls	Cyclone U/F -Untreated	Cyclone U/F -Desulphidized
pH	units	3.46	3.47	6.54	6.78
Alkalinity	mg/L as $CaCO_3$	< 2	< 2	2	3
Acidity	mg/L as $CaCO_3$	471	119	< 2	< 2
Conductivity	µS/cm	2390	445	24	19
SO_4	mg/L	1700	150	2.7	0.8
Hg	mg/L	< 0.0001	< 0.0001	< 0.00001	< 0.0001
Ag	mg/L	0.00048	< 0.00001	0.00001	< 0.00001
Al	mg/L	15.1	3.72	0.02	0.05
As	mg/L	0.0054	0.0014	< 0.0002	0.0020
Ca	mg/L	437	9.42	1.20	0.89
Cd	mg/L	0.00132	0.000493	0.000028	< 0.000003
Cu	mg/L	151	22.9	0.0672	0.0041
Fe	mg/L	90.3	21.9	< 0.003	0.019
K	mg/L	1.31	3.50	1.93	1.41
Mg	mg/L	5.41	1.92	0.108	0.192
Mn	mg/L	0.149	0.0870	0.00774	0.00011
Na	mg/L	20.2	0.97	0.82	1.02
Ni	mg/L	0.317	0.0780	0.0014	0.0001
Pb	mg/L	0.0412	0.00023	0.00013	0.00021
Si	mg/L	5.53	3.75	2.53	5.54
Zn	mg/L	0.125	0.048	0.006	< 0.002

9. Modified Acid Base Accounting and Net Acid Generation Testing – Humidity Cell Residues

Modified ABA and NAG tests results for the washed humidity cell residue samples are summarized in Tables 20 and 21, respectively. Complete test result are provided in Appendix A.

Table 20: Modified Acid Base Accounting Results – Humidity Cell Residues

Parameter	Unit	1st Cl Scav Tls	Whole Tls	Cyclone U/F -Untreated	Cyclone U/F -Desulphidized
Paste pH	units	4.05	5.10	8.57	7.79
Fizz Rate	---	1	1	1	1
NP[1]	t $CaCO_3$/1000 t	0.90	3.00	2.7	2.8
AP	t $CaCO_3$/1000 t	517	113	3.12	0.44
Net NP	t $CaCO_3$/1000 t	-516	-110	-0.42	2.36
NP/AP	ratio	0.002	0.03	0.86	6.40
S	%	16.7	3.67	0.140	0.044
SO_4	%	0.18	0.06	0.04	0.03
Sulphide	%	16.5	3.60	0.10	0.01
C	%	0.041	0.026	0.023	0.016
Carbonate	%	0.015	0.012	0.020	0.023
CO_3 NP[2]	t $CaCO_3$/1000 t	0.25	0.20	0.33	0.38
CO_3 Net NP	t $CaCO_3$/1000 t	-517	-113	-2.79	-0.06
CO_3 NP/AP	ratio	0.0005	0.002	0.11	0.87
Classification	based on ABA NP[1]	PAG	PAG	PAG	uncertain
Classification	based on CO_3 NP[2]	PAG	PAG	PAG	PAG

[1] measured in ABA test
[2] theoretical, based on CO_3 content alone.
Green highlighting indicates Net NP values less than 20.
Orange highlighting indicates NP/AP ratios less than 3.
PAG - Potentially Acid Generating based on interpretation of ABA test data alone.
PAN - Potentially Acid Neutralizing based on interpretation of ABA test data alone.
uncertain - acid generation potential is uncertain based on interpretation of ABA test data alone.

Table 21: Net Acid Generation Test Results – Humidity Cell Residue

Parameter	Unit	1st Cl Scav Tls	Whole Tls	Cyclone U/F -Untreated	Cyclone U/F -Desulphidized
Final pH	units	1.91	2.25	4.11	5.34
NAG (pH 4.5)	kg H_2SO_4/tonne	98	44	0.4	0
NAG (pH 7.0)	kg H_2SO_4/tonne	140	64	1.5	4.9

10. Moisture Content Determination

Results of the moisture content determinations completed on the Resolution filter cake solids are presented in Table 22.

Table 22: Moisture Content Determination Results

Sample	Moisture Content (% dry weight basis)
Rougher Tls	21.79
1st Cl Scav Tls	29.73
Whole Tls	23.52
Cyclone U/F Untreated	18.42
Cyclone U/F Desulphidized	20.96

11. Particle Size Distribution Analyses (ASTM D 422-63 (2007))

Tables 23 and 24 show results of the specific gravity and PSD analyses (sieve and hydrometer) completed on the Resolution tailings samples. Complete PSD test reports are provided in Appendix F.

Table 23: Specific Gravity Distribution Results

Sample Name	S. G.
Rougher Tls	2.69
1st Cl Sc Tls	3.22
Whole Tls	2.80
Cyclone U/F Untreated	2.69

Table 24: Particle Size Distribution Results

Rougher Tls		1st Cl Scav Tls		Whole Tls		Cyclone U/F Untreated	
Particle Size	Weight Passing	Particle Size	Weight Passing	Particle Size	Weight Passing	Particle Size	Weight Passing
(mm)	%	(mm)	%	(mm)	%	(mm)	%
0.425	100.0	0.425	100.0	0.425	100.0	0.425	100.0
0.212	93.3	0.212	98.8	0.212	94.6	0.212	84.0
0.150	79.7	0.150	98.2	0.150	84.5	0.150	52.6
0.075	55.6	0.075	96.7	0.075	64.5	0.075	15.9
0.044	43.2	0.033	67.1	0.041	52.1	0.050	5.8
0.032	36.3	0.024	58.7	0.030	43.7	0.036	1.9
0.023	31.4	0.018	53.7	0.022	37.2	0.025	1.9
0.017	25.5	0.013	45.3	0.016	31.6	0.018	1.9
0.012	21.6	0.010	38.6	0.012	26.1	0.013	1.9
0.009	19.6	0.007	31.9	0.008	22.3	0.009	1.9
0.006	13.7	0.005	24.3	0.006	16.7	0.007	0.0
0.005	8.8	0.004	18.5	0.004	13.0	0.005	0.0
0.001	3.9	0.001	5.9	0.001	4.7	0.001	0.0

12. Atterberg Limits (ASTM D 4318-05)

Results of the Atterberg limit testing conducted on the *Ro Tls, 1st Cl Scav Tls* and *Whole Tls* samples are summarized in Table 25. Detailed test reports are included in Appendix F.

Table 25: Atterberg Limit Test Results

Parameter	Rougher Tls	1st Cl Scav Tls	Whole Tls
Liquid Limit (LL)	CNBD	22	17
Plastic Limit (PL)	NP	NP	NP
Plasticity Index (PI)	NP	NP	NP

13. Standard Proctor (ASTM D 698-07e1)

Summary results of the standard Proctor testwork completed on the *1st Cl Scav Tls* and *Cyclone U/F – Untreated* samples are shown in Table 26. Comprehensive test reports are provided in Appendix F.

Table 26: Standard Proctor Test Results

Parameter	Units	1st Cl Scav Tls	Cyclone U/F Untreated
Max. Wet Density	g/cm^3	2.291	1.841
Max. Dry Density	g/cm^3	1.975	1.625
Optimum Moisture Content	%	16.0	13.3

14. Consolidated Drained Direct Shear Testing

Results of the direct shear test completed on the *Cyclone U/F – Untreated* sample are summarized in Table 27. The detailed test report is provided in Appendix F.

Table 27: Direct Shear Test Results

Parameter	Unit	Cyclone U/F Untreated Consolidation Pressure (kPa)		
		200 kPa	400 kPa	800 kPa
Displacement rate	mm/min	0.0048	0.0048	0.0048
Time to failure	hours	9	20	12
Horizontal displacement at peak	mm	2.64	5.89	3.38

15. Settled Density Test (KCB Beaker Method)

Summary results of the settled density test completed on the *Ro Tls* sample are shown in Table 28. The complete test report is provided in Appendix F.

Table 28: Settled Density Test Results

Parameter	Unit	Rougher Tls
Dry solid SG		2.69
Feed pulp density	g/L	1690
Feed percent solids*	%	65.0
Total settling time	min	4699
Final mudline	mL	1656
Final percent solids	%	72.3
Final settled density	g/L	1833
Total H_2O released	g	344

**Based on measured dry solid weight*

16. Slump Testing

Results of the slump test conducted on the *1st Cl Scav Tls* at a moisture content of 25% are presented in Table 29 below.

Table 29: Slump Test Results

Sample Name	Slump (mm)
1st Cl Sc Tls	65

Discussion

Semi-quantitative XRD analyses determined that the Resolution samples tested were predominantly comprised of silicates. Quartz (30.2 to 79.4 wt. %) and muscovite (15.28 to 23.8 wt. %) were the primary silicate minerals followed by kaolinite (3.3 to 5.8 wt. %), orthoclase (2.2-3.6 wt. %) and ilmenite (2.0-3.3 wt. %). While both the *1st Cl Scav Tls* and *Whole Tls* samples reported major amounts (34 and 8.5 wt. %, respectively) of Fe-sulphides (pyrite), only minor pyrite was observed in the *Rougher Tls* and *Cyclone U/F Untreated* samples (0.6 and 0.4%, respectively). Minor proportions of titanium oxide, in the form of rutile, were also evident in all four samples tested. Results of the semi-quantitative XRD analyses are illustrated in Figure 1 below.

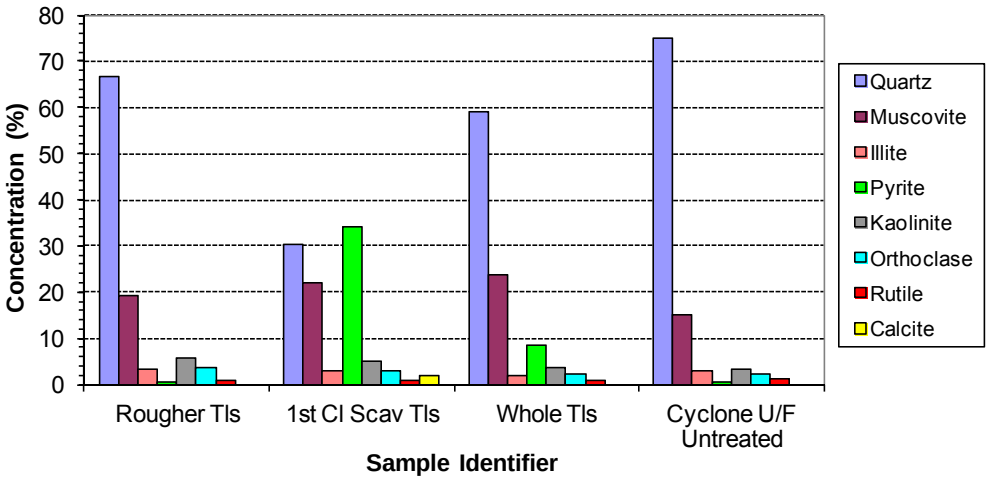

Figure 1: Semi-Quantitative XRD Analyses Results

Whole rock analyses completed on the Resolution tailings samples confirmed the primarily silicate composition of the tailings. All four samples were comprised predominantly of SiO_2 (43 to 86%) with major to minor amounts of Fe_2O_3 (1 to 23%), moderate amounts of Al_2O_3 (8 to 12%) and minor amounts of K_2O (3%). The highly elevated Fe_2O_3 reported in the *1st Cl Scav Tls* and *Whole Tls* samples (23 and 6%, respectively) corroborate the higher levels of sulphide determined for these sample during XRD analysis. As expected, the *Rougher Tls* and *Cyclone U/F Untreated* samples reported significantly lesser quantities of Fe_2O_3 (1%) in comparison. Similarly, the elevated loss on ignition (LOI) values (15 and 5%) determined for the *1st Cl Scav Tls* and *Whole Tls* samples, respectively, suggests the presence of appreciable amounts of volatile species (e.g. sulphides, hydrates, hydroxides and carbonates) while the lesser LOI values (<3%) determined for the *Rougher Tls* and *Cyclone U/F Untreated* samples suggests lesser volatile species. Comparative results of the WRA are shown in Figure 2.

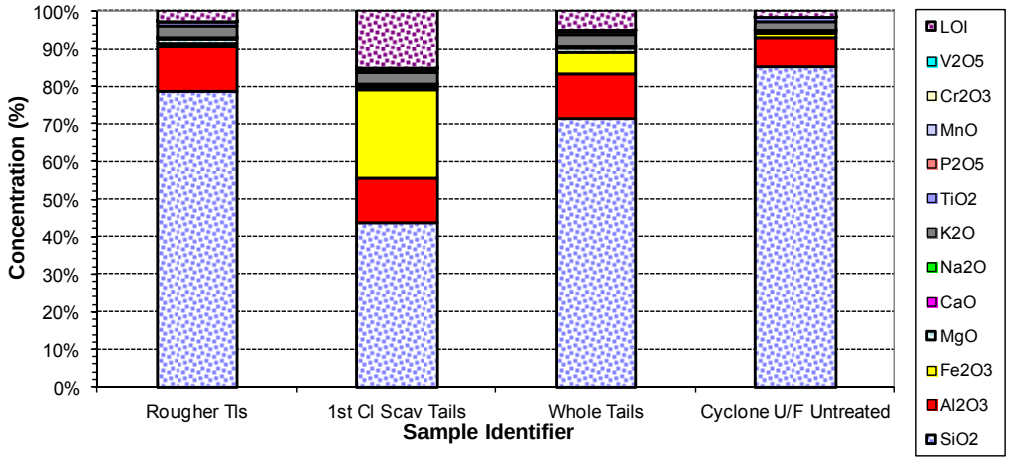

Figure 2: XRF Whole Rock Analyses Results

ICP-OES/MS strong acid digest elemental analysis of the Resolution tailings samples corroborated both the XRD and WRA results for these samples. Significant amounts of silicate (19 to 39%), aluminum (4 to 6%), and potassium (2 to 3%), and variable amounts of iron were evident. As expected, the *1st Cl Scav Tls* and *Whole Tls* samples reported highly elevated iron (16 and 4%, respectively) in comparison with the *Rougher Tls* and *Cyclone U/F Untreated* samples (<1%). Minor amounts (<1%) of calcium, copper, magnesium, and titanium were also observed. Although the concentrations reported were very low, the *1st Cl Scav Tls* and *Whole Tls* samples showed generally higher concentrations of silver, arsenic, boron, bismuth, cobalt, copper, and selenium over the *Rougher Tls* and *Cyclone U/F Untreated* samples. Results of the elemental analyses are illustrated in Figure 3. Good correlation was evident in the reconciliation of the elemental analyses with the WRA (converted to elemental concentrations), demonstrating confidence in the results obtained (see Figures 4 and 5).

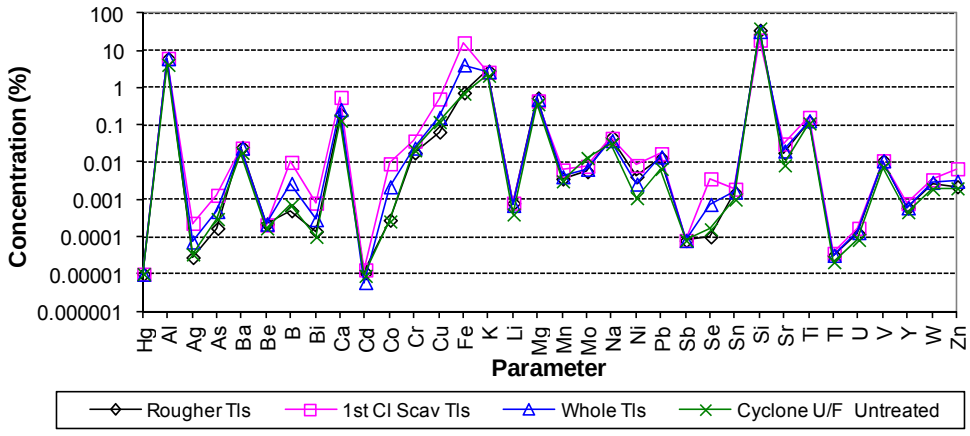

Figure 3: ICP-OES/MS Elemental Analyses Results

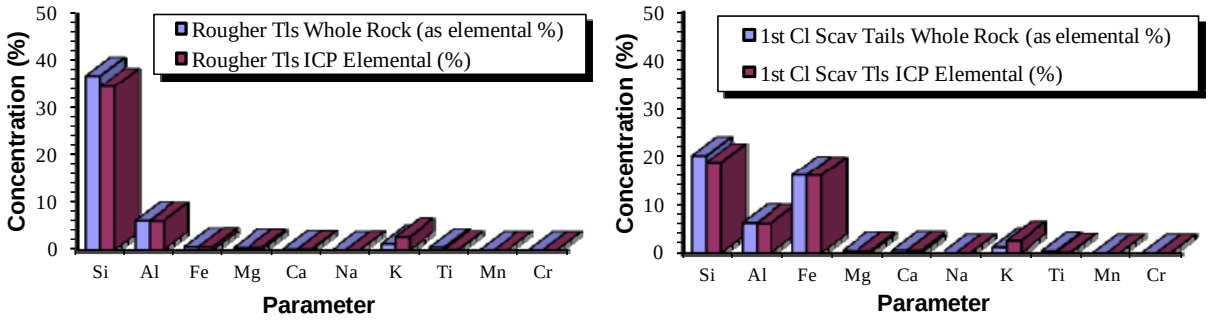

Figure 4: Reconciliation of ICP-OES/MS Elemental and XRF Whole Rock Analysis Results – Rougher Tls and 1st Cl Scav Tls Samples

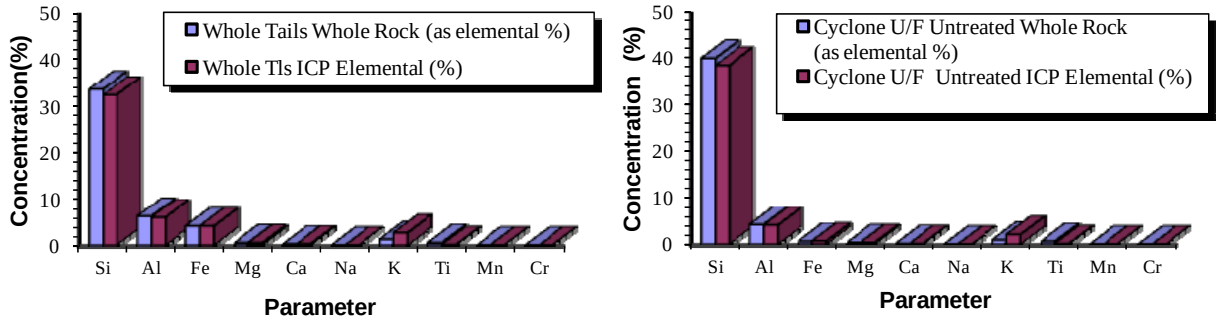

Figure 5: Reconciliation of ICP-OES/MS Elemental and XRF Whole Rock Analysis Results – Whole Tls and Cyclone U/F Untreated Samples

Analysis of the tailings shake flask extraction leachates reported all of the typically controlled parameters (Hg, As, Cd, Cu, Fe, Ni, Pb, and Zn), with the possible exception of copper in the *1st Cl Scav Tls* leachate, at concentrations well within the typical discharge standards. Near neutral pH values and significant amounts of alkalinity (15 to 151 mg/L), chlorine (1.6 to 2.3 mg/L), fluorine (0.71 to 1.8 mg/L), sulphate (25 to 1,800 mg/L), calcium (13 to 656 mg/L), potassium (2.8 to 25 mg/L), magnesium (0.73 to 15 mg/L), sodium (2.0 to 3.7 mg/L), and silica (2.0 to 2.6 mg/L) were evident in all four of the leachates. In comparison to the *Rougher Tls* and *Cyclone U/F Untreated* samples, the SFE leachate from the *1st Cl Scav Tls* and *Whole Tls* samples reported one to two order of magnitude higher levels of alkalinity, sulphate, calcium, cadmium, cobalt, copper, manganese, nickel, strontium, thallium, and uranium. Increased amounts of selenium, titanium, yttrium, and zinc were also evident in the *1st Cl Scav Tls* leachate. The *Rougher Tls* and *Cyclone U/F Untreated* leachates typically reported increased levels of aluminum, vanadium, and tungsten. Significantly lesser concentrations of potassium and magnesium (one order of magnitude) were released into the *Cyclone U/F Untreated* leachates in comparison to the three other samples tested. Figure 6 graphically illustrates the results of the shake flask extractions.

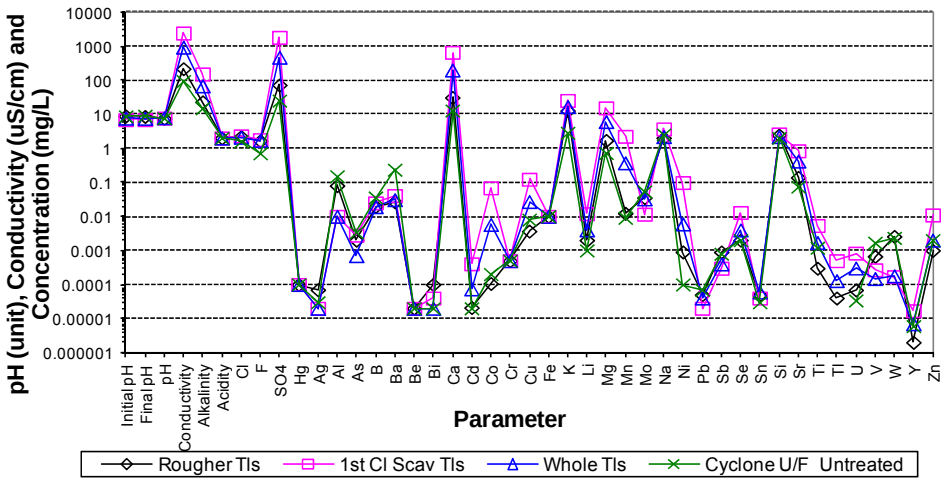

Figure 6: Shake Flask Extraction Test Results

Analysis of the decanted tailings solutions reported copper (*1st Cl Scav Tls* and *Whole Tls*) and mercury (*Rougher Tls*) concentrations that may prove to be of environmental concern. Overall, all five tailings reported slightly alkaline pH values (≥7.97) and significant amounts of TDS (174 to 314 mg/L), alkalinity (35 to 99 mg/L), chlorine (16 to 22 mg/L), chlorine (1.4 to 3.6 mg/L), sulphate (34 to 140 mg/L), calcium (33 to 54 mg/L), potassium (21 to 41 mg/L), magnesium (3.5 to 5.8 mg/L), sodium (9.4 to 17 mg/L), and silica (1.8 to 4.0 mg/L) in solution. The *Rougher Tls, 1st Cl Scav Tls* and *Whole Tls* solutions typically reported elevated levels of sulphate, cadmium, cobalt, chromium, copper, iron, nickel, and lead in comparison to the cyclone U/F solutions. Increased levels of thiosalts, silver, and bismuth were also evident in the *1st Cl Scav Tls* and *Whole Tls* solutions. The anomalously high concentrations of dissolved cadmium reported for all but the *Rougher Tls* solution are expected to be a result of analytical error. Results of the solution analyses are illustrated graphically in Figures 7 (total metals) and 8 (dissolved metals).

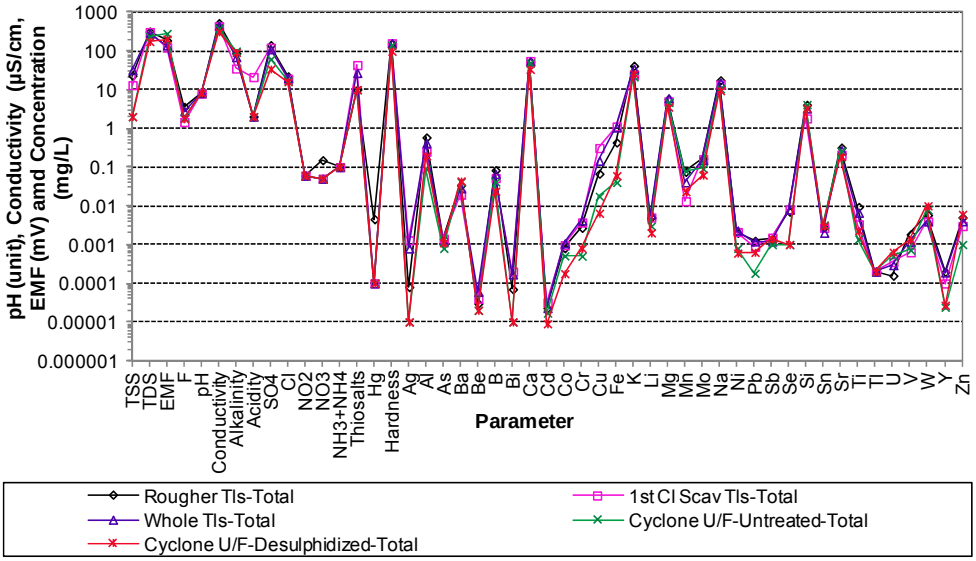

Figure 7: Decant Solution Analyses – Total Metals

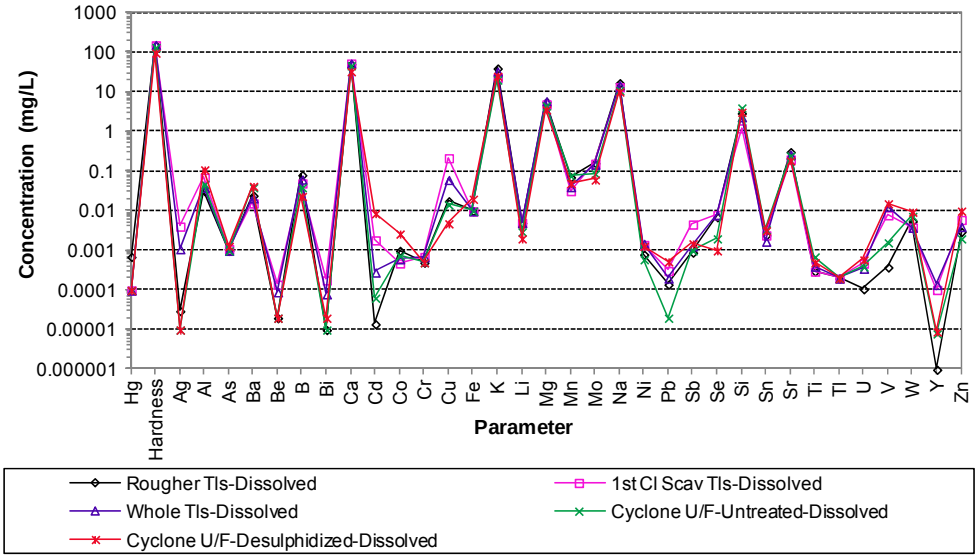

Figure 8: Decant Solution Analyses – Dissolved Metals

Modified ABA test results for the *1st Cl Scav Tls* and *Whole Tls* samples reported highly elevated sulphide contents (16.6 and 4.02%, respectively), negative total Net NP values (-511 and -121 t $CaCO_3$/1,000 t) and NP/AP ratios less than 1 (0.01 and 0.04) indicating insufficient NP to counteract the potential acidity determined based on the sulphide concentrations present. NAG testing reported highly acidic final pH values (2.17 and 2.31, respectively) and considerable residual acidity after titration to pH 4.5 (51 and 36 kg H_2SO_4/t) confirming the acid generation potential of these samples. Further titration of the NAG test solution to pH 7.0 also suggested that metal acidity may also be a factor which will contribute to difficulty in neutralizing these samples. It should be noted that, due to the high sulphide concentrations of

these samples (>4%), single aliquots of H_2O_2 would not be expected to completely oxidize the S^{2-} present; therefore, the potential acidity available for release from these samples would actually be in excess of that reported.

Even though the *Cyclone U/F Untreated* sample contained much lesser sulphide (0.21%) than the *1st Cl Scav Tls* and *Whole Tls* samples, the negative total net NP value (-2.55 t $CaCO_3$/1,000 t) and resultant total NP/AP ratio (0.61) similarly suggest the potential for acid generation under oxidizing conditions. NAG testing of the *Cyclone U/F Untreated* sample reported a final pH value >4.5 (4.72) resulting in no net acidity generated after aggressive oxidation of the sample. Titration of the sample to pH 7.0 did however report a minor quantity of residual acidity (2.3 kg H_2S0_4/t).

ABA testing of the *Rougher Tls* and *Cyclone U/F Desulphidized* samples reported very low total Net NP values (3.27 and 2.37 t $CaCO_3$/1000 t, respectively) and resultant NP/AP ratios less than 3 (2.89 and 2.66) suggesting uncertain acid generation potential. Determination of the carbonate (CO_3) contents of the samples also indicated that most of this total NP (90%) is from less reactive sources. Since CO_3 minerals are typically the only minerals that can react at fast enough rates to counteract acidities released by sulphide mineral oxidation; the resultant negative CO_3 Net NP values (-1.20 and -1.06 t $CaCO_3$/1,000 t) indicate increased uncertainty with regards to the availability and reactivity of this total NP. Although, based on the very low sulphide contents (0.06 and 0.05%), the *Rougher Tls* and *Cyclone U/F-Desulphidized* samples are unlikely in themselves to generate acidity, there is uncertainty as to whether these samples would able to sufficiently neutralize even minor quantities of acidity. NAG testing of the *Rougher Tls* and *Cyclone U/F-Desulphidized* samples also reported final pH values >4.5 (6.38 and 6.45, respectively) resulting in no net acidity generated. Titration of the samples to pH 7.0 did however report minor quantities of residual acidity (0.6 and 0.7 kg H_2S0_4/t). Results of the ABA tests are illustrated in Figure 9.

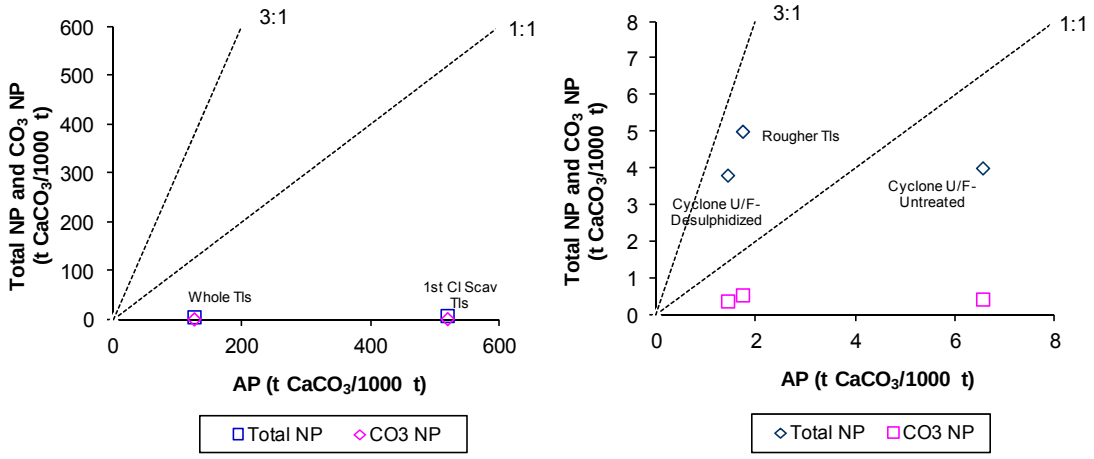

Figure 9: Total and CO_3 NP vs. AP

The *1st Cl Scav Tls* and *Whole Tls* humidity cell leachates consistently reported acidic pH values and alkalinity concentrations below the analytical detection limit after the 6th and 8th week of leaching, respectively. The pH values of these test cells generally stabilized in the 3.2 to 3.4 range. Increasing acidity concentrations were evident throughout the first 30 weeks of leaching, after which time acidity concentrations also generally stabilized. Significant levels of acidity were apparent in the leachates throughout the remainder of these tests. Although only relatively minor variations were evident in the concentrations of sulphate released into the *Whole Tls* leachates over the 100 week test period, increasing concentrations of sulphate were evident in the *1st Cl Scav Tls* leachates.

Both the *1st Cl Scav Tls* and the *Whole Tls* leachates reported concentrations of copper and iron that are expected to be of environmental concern. Elevated concentrations of nickel and zinc were also observed in the *1st Cl Scav Tls* leachates and highly elevated levels of aluminum were evident in both test cell leachates (cleaner and whole) following the week 20 leaches. Figure 10 illustrates the pH values, conductivity levels and sulphate concentrations measured in the *1st Cl Scav Tls* and *Whole Tls* leachates.

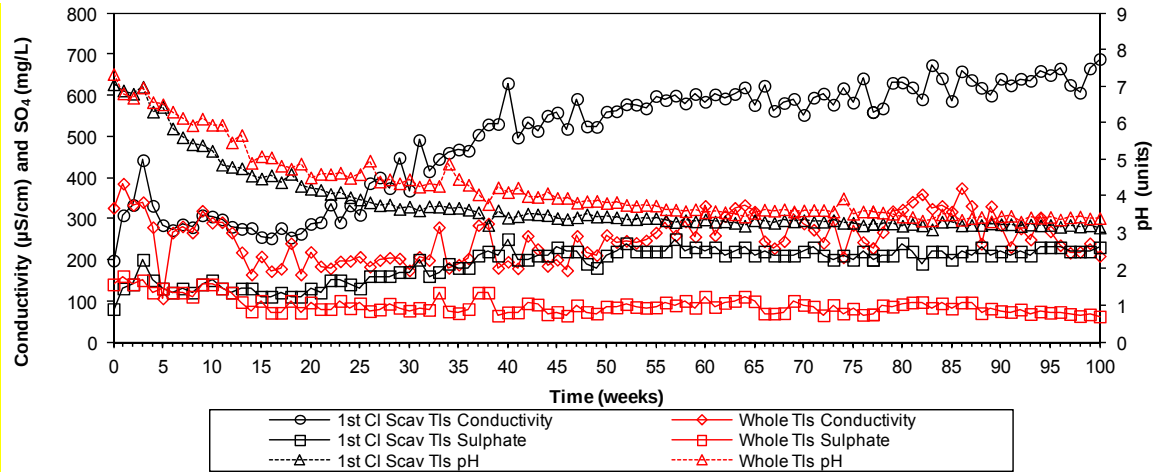

Figure 10: Humidity Cell Leachates – pH, Conductivity and SO_4 Concentrations – 1st Cl Scav Tls and Whole Tails

The Carbonate molar ratio (CMR) values, which are defined as the molar ratio of NP consumption (based on calcium and magnesium concentrations) to the rate of total acid generation (as delineated by sulphate production), for these test cells (<1) indicate insufficient neutralization to counteract the acidity being generated within the test cells. Cumulative depletion rates calculated for the *1st Cl Scav Tls* and *Whole Tls* test cells indicate that the CO_3 contents of these samples were exhausted after the first few weeks of leaching and that the total NP of these samples was exhausted around Week 45. Based on the elevated levels of sulphide contained within these samples, acid generation is expected to be ongoing as further sulphide oxidation occurs. Cumulative depletion rates for the *1st Cl Scav Tls* and *Whole Tls* humidity test cells are shown in Figure 11.

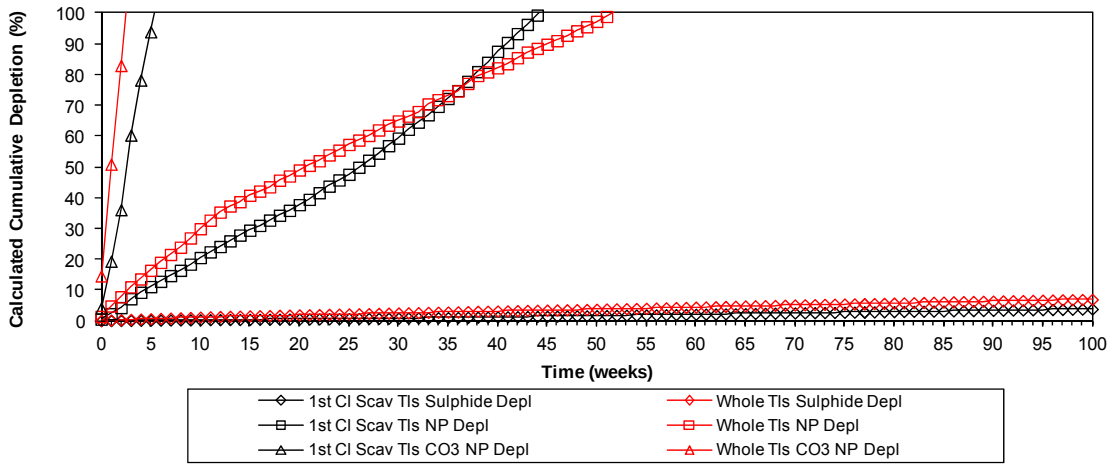

Figure 11: Humidity Cell Leachates – Cumulative Depletion Rates – 1st Cl Scav Tls and Whole Tails

The *Cyclone U/F-Untreated* leachates reported decreasing pH values that fell to below pH 6.0 in Week 40 and generally stabilized in the 5.2 to 5.8 range and environmentally significant concentrations of copper throughout the remainder of the 202 week test period. While the pH of the *Cyclone U/F-Desulphidized* leachates decreased at a slower rate than the untreated sample leachates, these leachates stabilized in the same pH range (5.2 to 5.8) during the final 52 weeks of testing (week 121 through 172). Alkalinity levels in the leachates from both samples decreased to below the analytical detection limit early in the tests (20 to 40 weeks) and low levels of sulphate and acidity were maintained throughout the remainder of the tests. The pH values, conductivity levels and sulphate concentrations measured in the *Cyclone U/F-Untreated* and *Cyclone U/F-Desulphidized* leachates are illustrated in Figure 12 below.

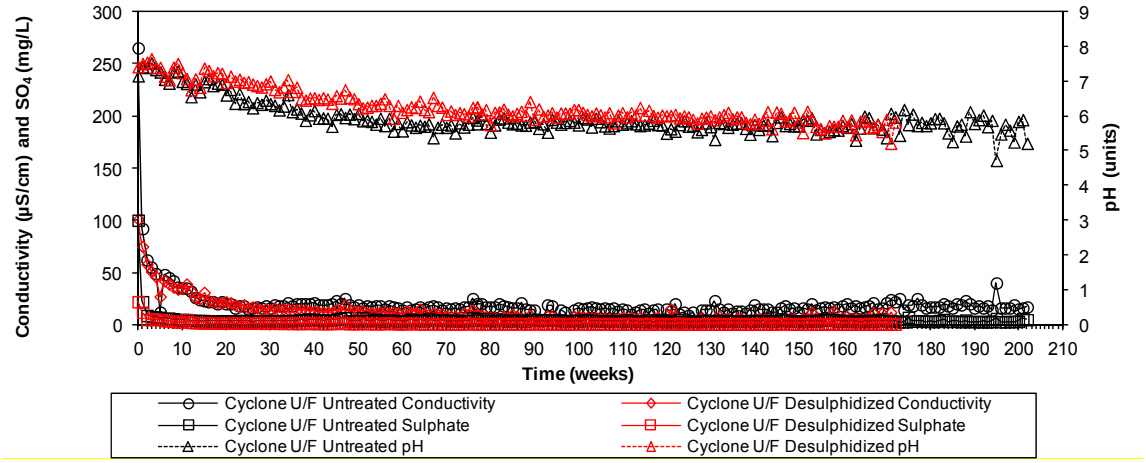

Figure 12: Humidity Cell Leachates – pH, Conductivity and SO_4 Concentrations – Cyclone U/F Untreated and Cyclone U/F Desulphidized

While the calculated cumulative CO_3 NP depletion indicates that the fast reacting CO_3 NP contained within the *Cyclone U/F-Untreated* test sample was generally exhausted by Week 80, the cumulative sulphide (13.6%) and total NP depletions (22.3%) indicate that even the less reactive total NP of this sample is expected to be exhausted prior to the sulphide content. This suggests that increasingly acidic drainage may be generated by this sample in the future.

Over 172 weeks of leaching, a cumulative sulphide depletion of 14.1% was determined for the *Cyclone U/F-Desulphidized* sample. While the related total NP depletion (5.8%) suggests that the total NP in this sample is depleting at a significantly slower rate than the sulphide, calculation of the CO_3 NP depletion (59.4%) indicates that the neutralizing carbonates in this sample are depleting at a rate approximately 4 times faster than the sulphides. This suggests that, although this sample is unlikely in itself to generate acidity, there is uncertainty as to whether the sample would able to sufficiently neutralize even minor quantities of acidity in an oxidizing environment. Figure 13 illustrates the cumulative depletion rates for the *Cyclone U/F-Untreated* and *Cyclone U/F-Desulphidized* humidity cell tests.

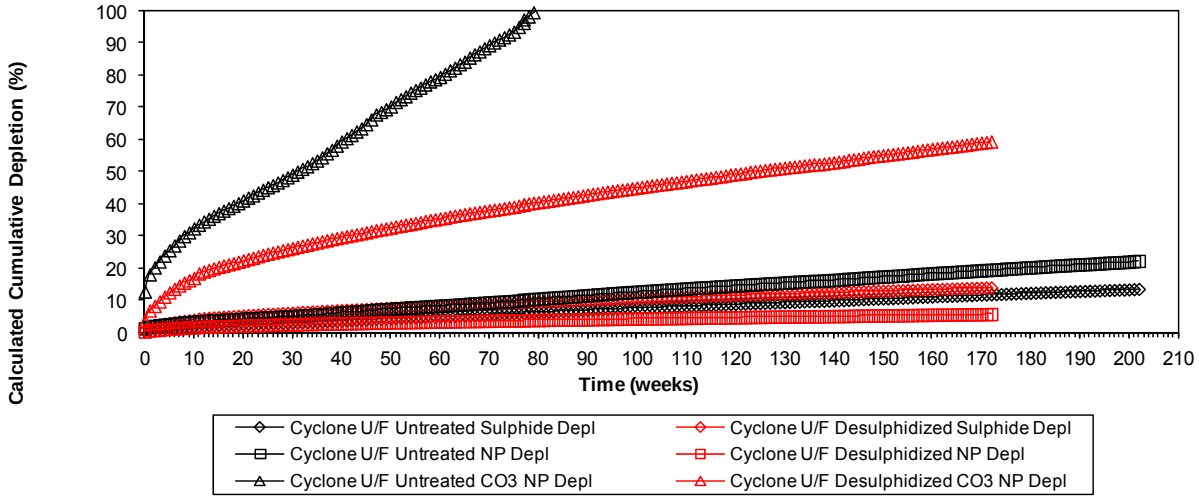

Figure 13: Humidity Cell Leachates – Cumulative Depletion Rates – Cyclone U/F Untreated and Cyclone U/F Desulphidized

Analysis of the leachates from the shake flask extraction completed on the *1st Cl Scav Tls* and *Whole Tls* humidity cell residues reported acidic pH values (3.46 and 3.47, respectively), and highly elevated (> 20 mg/L) copper and iron concentrations. An elevated Ni concentration that may prove to be of environmental concern was also observed in the *1st Cl Scav Tls* leachate.

The acidic pH of the *1st Cl Scav Tls* and *Whole Tls* leachates typically resulted in highly elevated concentrations (one to three orders of magnitude) of acidity, SO_4, Al, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Ni, Tl, U, Y, Zn and resultant conductivity in comparison to the cyclone U/F samples that reported near neutral pH values (≥6.5). Comparative results of the shake flask extractions are illustrated in Figure 14.

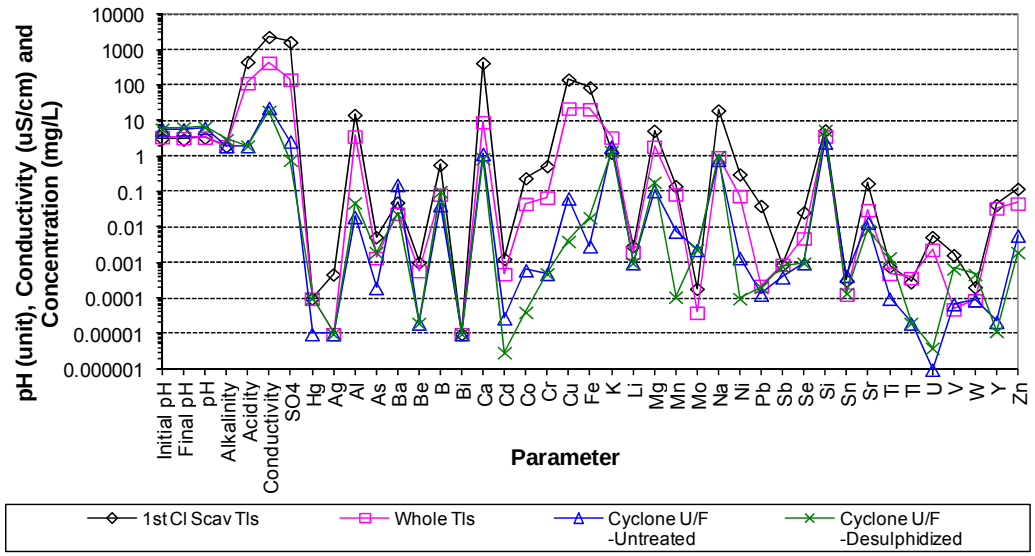

Figure 14: Shake Flask Extraction Tests (Price, 1997) – Humidity Cell Residues

Results of the ABA test completed on the washed humidity cell residues confirmed that, while little sulphide depletion occurred within the test cells, there was significant depletion of both total and CO_3 NP. NAG testing of the washed residues again confirmed the acid generation potential of the *1st Cl Scav Tls, Whole Tls* and *Cyclone U/F Untreated* samples reporting increased residual acidity (98, 44, and 0.4 kg H_2SO_4/t, respectively) in comparison to the pre-humidity cell NAG tests (51, 36, and 0 kg H_2SO_4/t). While NAG testing of the *Cyclone U/F Desulphidized* sample once again reported a final pH value >4.5 (5.34) resulting in no net acidity generated after aggressive oxidation of the sample, titration of this sample to pH 7.0 reported an increase in the quantity of residual acidity (4.9 kg H_2S0_4/t) in comparison to the pre-humidity cell NAG test (0.7 kg H_2SO_4/t). Results of the post humidity cell ABA tests are illustrated in Figure 15.

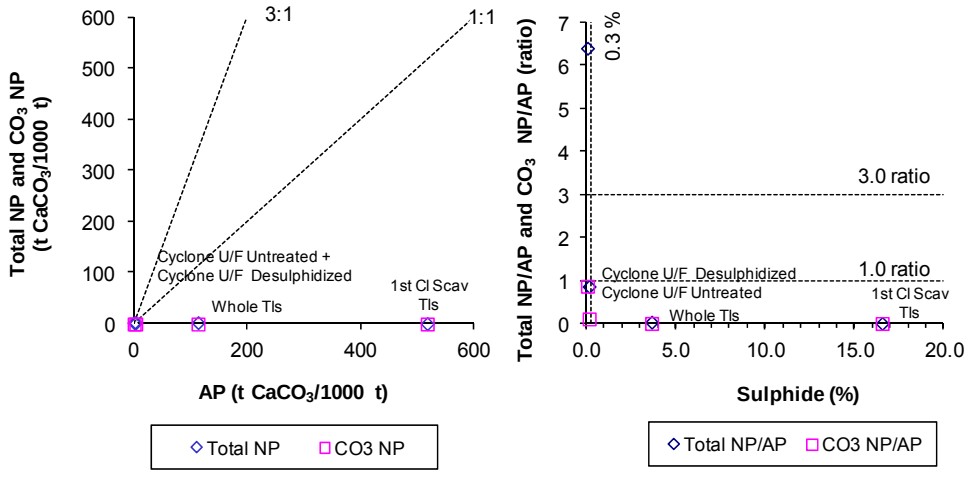

Figure 15: Total and CO_3 NP vs. AP & Total and CO_3 NP/AP Ratios vs. Sulphide – Humidity Cell Washed Residues

Average moisture contents of 22, 30, 24, 18, and 21% (dry weight basis) were determined for the *Rougher Tls, 1st Cl Scav Tls, Whole Tls, Cyclone U/F Untreated* and *Cyclone U/F Desulphidized* filter cake samples, respectively. Specific gravities of 2.69, 3.22, 2.80 and 2.69 were reported for the *Rougher Tls, 1st Cl Scav Tls, Whole Tls, Cyclone U/F Untreated* samples, respectively.

Results of the particle size distribution analyses indicated that the *Rougher Tls* and *Whole Tls* samples have very similar fine particle size distribution characteristics with ≥56% of the samples passing the 200 mesh (0.075 mm) sieve. The majority of theses fines were comprised of silt size particles (49 and 57%, respectively) with only 7% of the particles from either sample falling into the clay sized fraction.

In comparison to the *Rougher Tls* and *Whole Tls* samples, the *1st Cl Scav Tls* showed a much finer particle size distribution with only 3% of the sample being classified as fine sand sized material and 97% of the sample passing the 200 mesh sieve (0.075 mm). Although this fine grained material was composed primarily of silt size grains (85%), a significant fraction of the sample was also comprised of clay size particles (12%).

In contrast to the above noted samples, the *Cyclone U/F Untreated* sample reported a much coarser particle size distribution. Particle size distribution analyses classified this sample as primarily comprised of uniformly graded fine sand sized material (84%). The remaining 16% of the sample was composed of silt sized material. Comparative results of the particle size analyses are presented graphically in Figure 16.

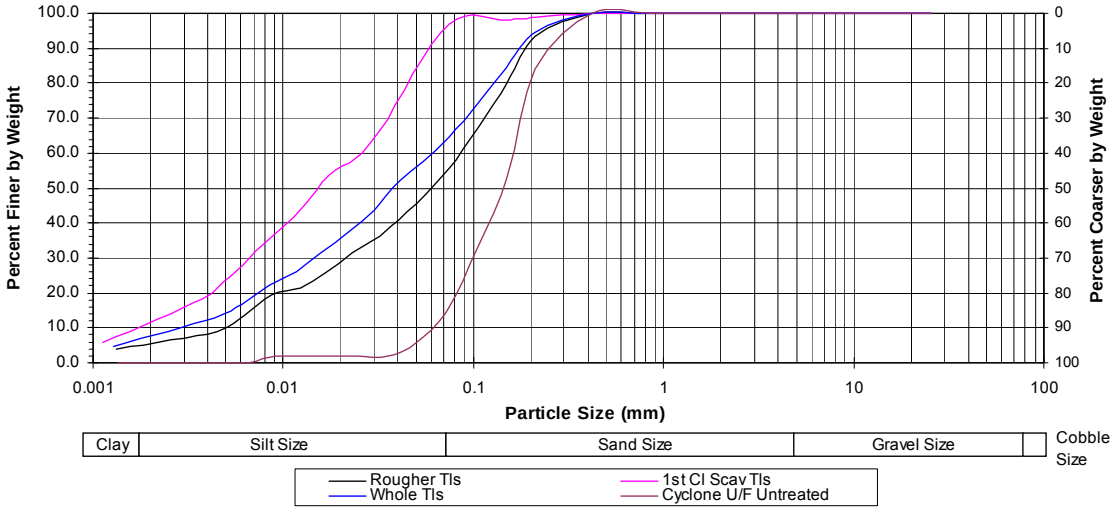

Figure 16: Particle Size Distribution Results

Atterberg limits could not be determined for the *Rougher Tls* sample. The ASTM D 4318-05 method states that if the soil pat slides on the surface of the brass liquid limit cup, or if the number of blows required to close the groove is always less than 25, a liquid limit (LL) cannot be determined. Similarly, if

the sample cannot be rolled into a 1/8″ thread at any moisture content it is to be determined non-plastic. This behaviour is typical of cohesionless inorganic silt or rock flour type samples. Although respective liquid limits of 22 and 17 were determined for the *1st Cl Scav Tls* and *Whole Tls* samples, both samples were again determined to be non-plastic (NP).

Results of the standard Proctor test completed on the *1st Cl Scav Tls* sample reported maximum wet and dry densities (2.291 and 1.975 g/cm^3, respectively) and an optimum moisture content (16.0%) that would typically be expected from a silt or rock flour type material. Standard Proctor testing of the *Cyclone U/F Untreated* sample reported significantly lesser maximum wet and dry densities (1.841 g/cm^3 and 1.625 g/cm^3) and a lesser optimum moisture content (13.3%). These results would be typical of poorly graded sand. Results of the standard Proctor tests are illustrated in Figure 17.

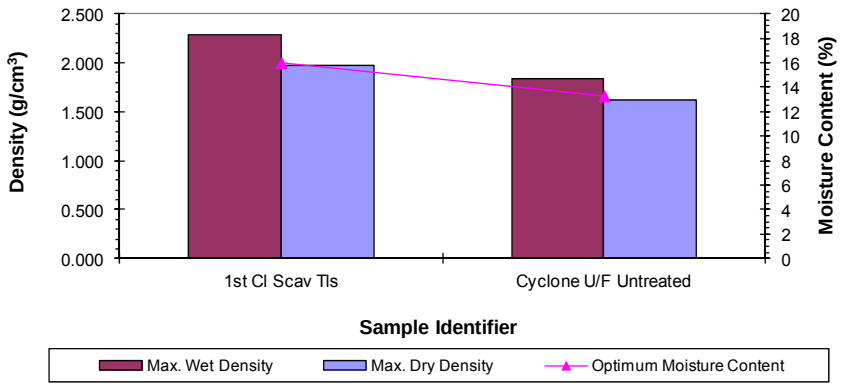

Figure 17: Standard Proctor Test Results

Direct shear test results for the *Cyclone U/F Untreated* sample at consolidation pressures of 400 and 800 kPa reported increased time to failure (20 and 12 hours, respectively) and increased horizontal displacement (5.89 and 3.38 mm) in comparison to test completed at a consolation pressure of 200 kPa (9 hours to failure and 2.64 mm of horizontal displacement).

Results of the beaker settling test completed on the *Rougher Tls* sample indicated very poor settling characteristics. The sample settled very slowly over approximately 8 hours, reaching terminal density shortly thereafter. Very little supernatant production (344 mL) was observed and only a minor increase was evident in the final percent solids (72.3%) of the settled tailings in comparison to the initial feed percent solids of 65.0%. Figure18 graphically illustrates the time vs. mudline measurements while Figure 18 illustrates the initial and final results of the settling tests.

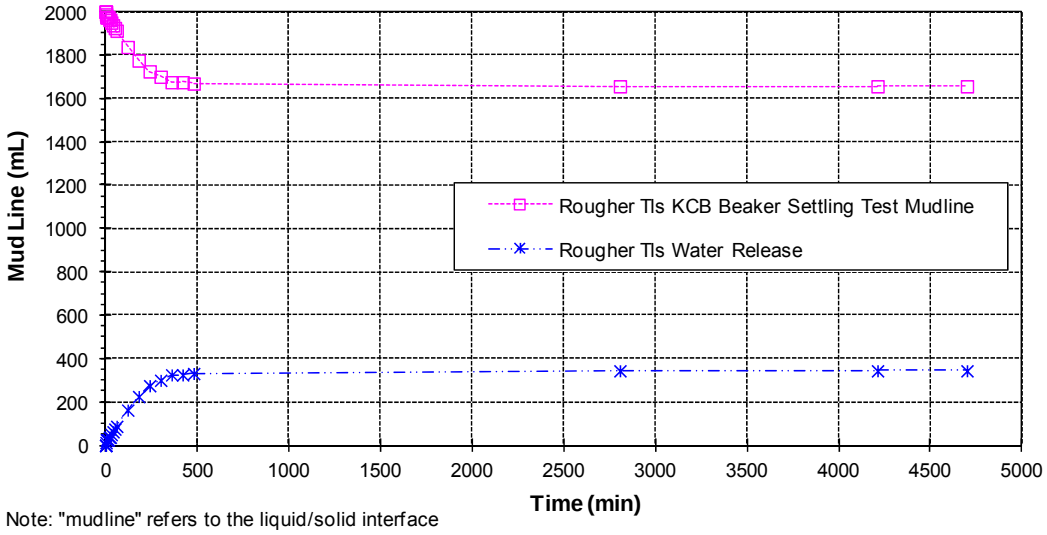

Figure 18: KCB Beaker Settling Test Results – Time vs. Mudline

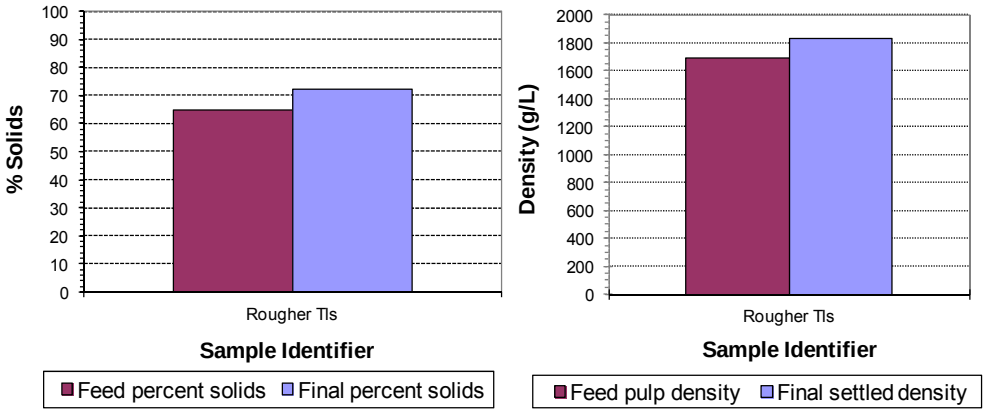

Figure 19: KCB Beaker Settling Test Results –
Feed % Solids vs. Final % Solids & Feed Pulp Density vs. Final Settled Density

Results of the slump test conducted on the *1st Cl Scav Tls* at a moisture content of approximately 25% reported 65 mm (6.5 cm) of subsidence upon removal of the slump cone classifying the tailings as a solid, as per US EPA standards.

Conclusions

This report has been provided to summarize results of the testwork completed on the Resolution Copper tailings samples. In conclusion:

- XRD examination indicated that the tailings samples were comprised primarily of silicates and determined that *1st Cl Scav Tls* and *Whole Tls* samples contained major amounts of sulphide in the form of pyrite. Minor amounts of pyrite (<1%) were reported in the *Rougher Tls* and *Cyclone O/F Untreated* samples.
- Whole rock and ICP-OES/MS elemental analyses confirmed that the tailings samples were predominantly comprised of silicates with variable (major to minor) amounts Fe.
- The leachates from the shake flask extractions reported all of the typically controlled parameters, with the possible exception of copper (*1st Cl Scav Tls*) at concentrations well within the typical discharge standards.
- Analysis of the tailings solutions reported concentrations of copper (*1st Cl Scav Tls* and *Whole Tls*) and mercury (*Rougher Tls*) that may prove to be of environmental concern.
- ABA testing of both the *1st Cl Scav Tls* and *Whole Tls* samples reported major sulphide concentrations indicating strong potential for acid generation under oxidising conditions.
- NAG testing confirmed the highly acidic nature of the *1st Cl Scav Tls* and *Whole Tls* samples; however, due to the very high sulphide concentrations, sequential NAG testing using multiple additions of H_2O_2 would be required to determine terminal NAG results for these samples.
- The *1st Cl Scav Tls* and *Whole Tls* humidity cell leachates consistently reported acidic pH values and Cu and Fe concentrations that are expected to be of environmental concern. Elevated levels of Ni and Zn were also evident in the *1st Cl Scav Tls* leachates throughout much of the 100 week test period.
- Cumulative depletion rates indicated that the carbonate contents of these samples was exhausted after the 1st few weeks of leaching and that the total NP of the samples was exhausted after approximately 45 weeks of leaching; therefore acid generation from the *1st Cl Scav Tls* and *Whole Tls* samples is expected to be long term.
- Although the *Cyclone U/F Untreated* sample reported only minor sulphide, ABA testing similarly indicated the potential for acid generation from this sample under oxidizing conditions.
- While NAG testing of the *Cyclone U/F Untreated* sample reported a final pH value >4.5 resulting in no net acidity generated, titration of the sample to pH 7.0 did result in a minor quantity of residual acidity**.**
- The pH of the *Cyclone U/F-Untreated* humidity cell leachates stabilized in the 5.2 to 5.8 range and environmentally significant concentrations of Cu were reported throughout much of the 202 week test period.
- The cumulative depletion rates calculated for the *Cyclone U/F-Untreated* test sample indicate that even the less reactive total NP of this sample is expected to be exhausted prior to the sulphide content, suggesting the potential for increasingly acidic drainage over time.
- Although ABA testing indicated that the *Rougher Tls* and *Cyclone U/F-Desulphidized* samples are unlikely in themselves to generate acidity; the extremely low NP and carbonate contents also indicated uncertainty as to whether these samples would able to sufficiently neutralize even minor quantities of acidity.
- NAG testing of the *Rougher Tls* and *Cyclone U/F-Desulphidized* samples reported no net acidity generated after aggressive oxidation of the samples; however, titration of the samples to pH 7.0 again resulted in minor quantities of residual acidity**.**

- Although the *Cyclone U/F-Desulphidized* humidity cell leachates decreased at a slower rate, these leachates stabilized in the same pH range (5.2 to 5.8) as the untreated sample leachates. Increasing Cu concentrations were also evident in these leachates throughout the latter weeks of testing.
- Although depletion rate calculations suggest that the total NP of the *Cyclone U/F-Desulphidized* sample is depleting at a significantly slower rate than the sulphide, the CO_3 NP depletion indicates that the neutralizing carbonates in this sample are depleting at a rate approximately 4 times faster than the sulphides, again indicating uncertainty as to whether the sample would be able to sufficiently neutralize even minor quantities of acidity in an oxidizing environment.
- Analysis of the humidity cell residue shake flask extraction leachates reported acidic pH values and copper and iron (*1st Cl Scav Tls* and *Whole Tls*) concentrations that are expected to be of environmental concern.
- ABA testing completed on the washed humidity cell residues confirmed that while little sulphide depletion occurred within the test cells, there was significant depletion of both total and CO_3 NP.
- NAG testing of the washed humidity cell residues confirmed the continued acid generation potential of the *1st Cl Scav Tls* and *Whole Tls* samples.
- NAG testing of the washed *Cyclone U/F Untreated* reported minor residual acidity at pH 4.5 and increased residual acidity at pH 7.0 in comparison to the pre humidity cell NAG test.
- Although NAG testing of the *Cyclone U/F Desulphidized* sample once again reported no net acidity generated at pH 4.5, increased residual acidity was evident at pH 7.0 in comparison to the pre-humidity cell NAG test.
- Particle size distribution analyses indicated that the *Cyclone U/F Untreated* sample was comprised primarily of sand sized grains, while the *Rougher Tls* and *Whole Tls* samples were comprised primarily of fines (silt and clay sized material).
- While the *1st Cl Scav Tls* was also composed predominantly of fines, this sample showed a much finer particle size distribution in comparison to the *Rougher Tls* and *Whole Tls* samples.
- Atterberg limit testing indicated that the *1st Cl Scav Tls* and *Whole Tls* tailings samples tested were non-plastic. Atterberg limits could not be determined for the *Rougher Tls* sample.
- The *1st Cl Scav Tls* sample reported compaction characteristics that would typically be expected from a silt or rock flour type material, while the *Cyclone U/F Untreated* sample revealed compaction characteristics that would be typical of a poorly graded sand.
- Direct shear test results for the *Cyclone U/F Untreated* sample showed increased time to failure and horizontal displacement with increased consolidation pressure.
- Results of the beaker settling test completed on the *Rougher Tls* sample reported only a minor increase in the final percent solids of the settled tailings in comparison to the initial feed percent solids.
- Slump test of the *1st Cl Scav Tls* classified the tailings as a solid, as per US EPA standards.

Appendix A – Analytical Summary Tables

Whole Rock Analyses

Parameter	Unit	Rougher Tls	1st Cl Scav Tails	Whole Tails	Cyclone U/F Untreated
LIMS		02079-JUN09	02079-JUN09	02079-JUN09	02079-JUN09
SiO_2	%	79.0	43.2	71.8	85.6
Al_2O_3	%	11.7	11.7	11.8	8.00
Fe_2O_3	%	1.00	23.0	5.87	0.93
MgO	%	0.93	0.78	0.89	0.64
CaO	%	0.28	0.81	0.39	0.20
Na_2O	%	0.06	0.06	0.04	0.04
K_2O	%	3.22	2.94	3.15	2.30
TiO_2	%	1.01	0.72	0.94	1.01
P_2O_5	%	0.20	0.24	0.21	0.13
MnO	%	< 0.01	< 0.01	< 0.01	< 0.01
Cr_2O_3	%	0.03	0.06	0.04	0.04
V_2O_5	%	0.03	0.04	0.02	0.02
LOI	%	2.91	15.1	5.36	1.88
Sum	%	100.4	98.6	100.5	100.8

ICP-OES/MS Strong Acid Digest Elemental Analyses

Parameter	Unit	Rougher Tls	1st Cl Scav Tls	Whole Tls	Cyclone U/F Untreated
LIMS		10997-JUN09	10997-JUN09	10997-JUN09	10997-JUN09
Hg	µg/g	< 0.1	< 0.1	< 0.1	< 0.1
Al	µg/g	61000	61000	60000	41000
Ag	g/t	0.28	2.3	0.73	0.34
As	µg/g	1.7	13	4.8	3.0
Ba	g/t	250	240	240	180
Be	g/t	2.2	2.1	2.2	1.7
B	µg/g	5	100	27	7
Bi	µg/g	1.4	8.0	2.9	1.0
Ca	µg/g	1900	5500	2600	1300
Cd	µg/g	0.11	0.13	0.06	0.09
Co	µg/g	2.8	91	22	2.6
Cr	µg/g	180	370	240	210
Cu	µg/g	650	5000	1600	1200
Fe	µg/g	7300	160000	41000	6900
K	µg/g	28000	26000	27000	21000
Li	g/t	8	8	7	4
Mg	µg/g	5300	4400	4900	3600
Mn	g/t	36	62	41	31
Mo	µg/g	56	78	65	130
Na	µg/g	470	440	380	310
Ni	µg/g	41	82	26	11
Pb	µg/g	130	170	140	67
Sb	g/t	< 0.8	< 0.8	< 0.8	< 0.8
Se	µg/g	1.0	36	7.4	1.6
Sn	µg/g	15	19	16	10
Si	%	34.6	18.8	32.3	38.5
Sr	g/t	180	310	200	83
Ti	µg/g	1200	1600	1300	1100
Tl	µg/g	0.32	0.36	0.32	0.21
U	µg/g	1.2	1.7	1.3	0.83
V	g/t	110	110	110	74
Y	µg/g	6.0	7.8	6.0	4.6
W	g/t	27	34	29	19
Zn	µg/g	22	67	31	20

Shake Flask Extraction (24 h - 3:1 L:S Ratio)

Parameter	Unit	Rougher Tls	1st Cl Scav Tls	Whole Tls	Cyclone U/F Untreated
LIMS		10998-JUN09	10998-JUN09	10998-JUN09	10998-JUN09
Sample weight	g	250	250	250	250
Volume mL	D.I. H_2O	750	750	750	750
Initial pH	units	8.86	6.89	7.65	8.60
Final pH	units	8.57	6.88	7.51	9.02
pH	units	7.48	7.70	7.85	7.59
Conductivity	uS/cm	216	2410	927	94
Alkalinity	mg/L as $CaCO_3$	23	151	68	15
Acidity	mg/L as $CaCO_3$	< 2	< 2	< 2	< 2
Cl	mg/L	2.2	2.3	2.1	1.6
F	mg/L	1.65	1.79	1.69	0.71
SO_4	mg/L	72	1800	470	25
Hg	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ag	mg/L	0.00007	0.00002	0.00002	0.00003
Al	mg/L	0.08	< 0.01	< 0.01	0.15
As	mg/L	0.0020	0.0028	0.0007	0.0034
B	mg/L	0.0196	0.0249	0.0193	0.0358
Ba	mg/L	0.0268	0.0409	0.0309	0.234
Be	mg/L	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Bi	mg/L	0.00010	0.00004	0.00002	0.00002
Ca	mg/L	30.9	656	198	12.8
Cd	mg/L	0.000021	0.000403	0.000074	0.000020
Co	mg/L	0.000107	0.0685	0.00577	0.000202
Cr	mg/L	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cu	mg/L	0.0037	0.123	0.0273	0.0080
Fe	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
K	mg/L	12.7	25.3	16.8	2.84
Li	mg/L	0.002	0.012	0.004	0.001
Mg	mg/L	1.69	15.3	6.05	0.727
Mn	mg/L	0.0123	2.24	0.373	0.00906
Mo	mg/L	0.0354	0.0116	0.0325	0.0538
Na	mg/L	2.02	3.69	2.19	2.53
Ni	mg/L	0.0009	0.0983	0.0060	0.0001
Pb	mg/L	0.00005	< 0.00002	0.00004	0.00007
Sb	mg/L	0.0009	0.0003	0.0004	0.0008
Se	mg/L	0.002	0.013	0.004	0.002
Sn	mg/L	0.00005	0.00004	0.00006	0.00003
Si	mg/L	2.44	2.62	2.19	2.00
Sr	mg/L	0.139	0.840	0.421	0.0745
Ti	mg/L	0.0003	0.0054	0.0017	0.0012
Tl	mg/L	0.00004	0.00050	0.00013	< 0.00002
U	mg/L	0.000069	0.000832	0.000304	0.000034
V	mg/L	0.00067	0.00027	0.00015	0.00169
W	mg/L	0.00258	0.00017	0.00018	0.00233
Y	mg/L	0.000002	0.000017	0.000007	0.000006
Zn	mg/L	< 0.001	0.011	0.002	0.002

ADEQ - Arizona Department of Environmental Quality

** World Bank Limit for pH*

ICP-OES/MS Decant Solution Analyses

Parameter	Unit	Rougher Tls		1st Cl Scav Tls		Whole Tls	
LIMS		11155-APR09		11206-APR09		11206-APR09	
Temp Upon Receip	°C	17.0	17.0	17.0	17.0	17.0	17.0
TSS	mg/L	23	---	13	---	32	---
TDS	mg/L	314	---	306	---	283	---
EMF	mV	186	---	122	---	139	---
F	mg/L	3.56	---	1.45	---	2.77	---
pH	units	7.97	---	8.00	---	8.08	---
Conductivity	µS/cm	520	---	430	---	450	---
Alkalinity	mg/L as $CaCO_3$	87	---	35	---	69	---
Acidity	mg/L as $CaCO_3$	< 2	---	21	---	< 2	---
SO_4	mg/L	140	---	120	---	110	---
Cl	mg/L	22	---	19	---	20	---
NO_2	as N mg/L	< 0.06	---	< 0.06	---	< 0.06	---
NO_3	as N mg/L	0.15	---	< 0.05	---	< 0.05	---
NH_3+NH_4	as N mg/L	< 0.1	---	< 0.1	---	< 0.1	---
Thiosalts	as S_2O_3 mg/L	< 10	---	43	---	27	---
Metals		**Total**	**Dissolved**	**Total**	**Dissolved**	**Total**	**Dissolved**
Hg	mg/L	0.0045	0.0007	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hardness	mg/L as $CaCO_3$	155	151	156	153	158	156
Ag	mg/L	0.00008	0.00003	0.00129	0.00407	0.00079	0.00110
Al	mg/L	0.583	0.0318	0.249	0.0698	0.415	0.0389
As	mg/L	0.0014	0.0010	0.0014	0.0011	0.0012	0.0010
Ba	mg/L	0.0339	0.0246	0.0194	0.0157	0.0282	0.0211
Be	mg/L	0.00003	< 0.00002	0.00004	0.00014	0.00006	0.00009
B	mg/L	0.0833	0.0810	0.0518	0.0502	0.0658	0.0629
Bi	mg/L	0.00007	< 0.00001	0.00020	0.00018	0.00017	0.00008
Ca	mg/L	52.5	51.0	54.5	53.2	53.5	52.8
Cd	mg/L	0.000023	0.000014	0.000032	0.001835	0.000023	0.000283
Co	mg/L	0.000807	0.000998	0.000963	0.000480	0.001073	0.000614
Cr	mg/L	0.0027	< 0.0005	0.0037	0.0007	0.0042	0.0007
Cu	mg/L	0.0673	0.0178	0.310	0.217	0.145	0.0613
Fe	mg/L	0.43	< 0.01	1.11	< 0.01	1.05	< 0.01
K	mg/L	41.1	39.7	24.1	23.3	34.3	33.2
Li	mg/L	0.005	0.005	0.005	0.005	0.006	0.005
Mg	mg/L	5.80	5.74	4.97	4.93	5.96	5.92
Mn	mg/L	0.0750	0.0715	0.01314	0.03205	0.04027	0.04063
Mo	mg/L	0.166	0.162	0.161	0.157	0.151	0.149
Na	mg/L	17.4	17.0	13.5	13.4	15.1	15.0
Ni	mg/L	0.0020	0.0008	0.0021	0.0014	0.0023	0.0015
Pb	mg/L	0.00125	0.00014	0.00088	0.00031	0.00120	0.00020
Sb	mg/L	0.0014	0.0009	0.0015	0.0046	0.0012	0.0013
Se	mg/L	0.007	0.007	0.008	0.008	0.008	0.008
Si	mg/L	4.03	2.93	1.80	1.23	3.25	2.35
Sn	mg/L	0.00281	0.00246	0.00269	0.00245	0.00201	0.00171
Sr	mg/L	0.318	0.310	0.208	0.200	0.273	0.266
Ti	mg/L	0.0094	0.0003	0.0033	0.0003	0.0066	0.0004
Tl	mg/L	< 0.0002	< 0.0002	< 0.0002	0.0002	< 0.0002	< 0.0002
U	mg/L	0.000157	0.000107	0.000352	0.000477	0.000294	0.000353
V	mg/L	0.00184	0.00038	0.00063	0.00791	0.00118	0.01296
W	mg/L	0.00581	0.00556	0.00392	0.00388	0.00404	0.00381
Y	mg/L	0.000196	< 0.000001	0.000099	0.000103	0.000190	0.000138
Zn	mg/L	0.005	0.003	0.003	0.006	0.004	0.004

ADEQ - Arizona Department of Enviromental Quality

** World Bank Limit for pH*

ICP-OES/MS Decant Soluti

Parameter	Unit	Cyclone U/F-Untreated		Cyclone U/F-Desulphidized	
LIMS		11074-MAY09		11074-MAY09	
Temp Upon Receip	°C	21.0	21.0	21.0	21.0
TSS	mg/L	< 2	---	< 2	---
TDS	mg/L	234	---	174	---
EMF	mV	280	---	201	---
F	mg/L	1.88	---	1.78	---
pH	units	8.07	---	8.10	---
Conductivity	µS/cm	380	---	310	---
Alkalinity	mg/L as $CaCO_3$	99	---	91	---
Acidity	mg/L as $CaCO_3$	< 2	---	< 2	---
SO_4	mg/L	61	---	34	---
Cl	mg/L	17	---	16	---
NO_2	as N mg/L	< 0.06	---	< 0.06	---
NO_3	as N mg/L	< 0.05	---	< 0.05	---
NH_3+NH_4	as N mg/L	< 0.1	---	< 0.1	---
Thiosalts	as S_2O_3 mg/L	< 10	---	< 10	---
Metals		**Total**	**Dissolved**	**Total**	**Dissolved**
Hg	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hardness	mg/L as $CaCO_3$	140	135	97.9	97.6
Ag	mg/L	0.00001	< 0.00001	0.00001	< 0.00001
Al	mg/L	0.0886	0.0476	0.194	0.110
As	mg/L	0.0008	0.0010	0.0011	0.0013
Ba	mg/L	0.0413	0.0394	0.0436	0.0421
Be	mg/L	< 0.00002	< 0.00002	< 0.00002	< 0.00002
B	mg/L	0.0412	0.0392	0.0238	0.0235
Bi	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00002
Ca	mg/L	48.2	46.5	33.4	33.1
Cd	mg/L	0.000017	0.000064	0.000009	0.00864
Co	mg/L	0.000511	0.000742	0.000177	0.00265
Cr	mg/L	< 0.0005	< 0.0005	0.0008	< 0.0005
Cu	mg/L	0.0175	0.0144	0.0064	0.0048
Fe	mg/L	0.04	< 0.01	0.06	0.02
K	mg/L	21.3	20.4	25.6	25.3
Li	mg/L	0.003	0.003	0.002	0.002
Mg	mg/L	4.65	4.54	3.53	3.60
Mn	mg/L	0.0790	0.0764	0.0230	0.0499
Mo	mg/L	0.0908	0.0876	0.0620	0.0615
Na	mg/L	10.5	11.1	9.40	10.2
Ni	mg/L	0.0008	0.0006	0.0006	0.0013
Pb	mg/L	0.00018	< 0.00002	0.00063	0.00053
Sb	mg/L	0.0010	0.0010	0.0014	0.0015
Se	mg/L	0.001	0.002	0.001	< 0.001
Si	mg/L	4.13	4.01	3.30	3.12
Sn	mg/L	0.00320	0.00337	0.00303	0.00318
Sr	mg/L	0.254	0.248	0.185	0.186
Ti	mg/L	0.0014	0.0007	0.0023	0.0005
Tl	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
U	mg/L	0.000500	0.000389	0.000631	0.000590
V	mg/L	0.00072	0.00159	0.00130	0.0154
W	mg/L	0.00794	0.00734	0.0100	0.00945
Y	mg/L	0.000024	0.000008	0.000027	0.000009
Zn	mg/L	0.001	0.002	0.006	0.010

ADEQ - Arizona Department of Environ

** World Bank Limit for pH*

Modified Acid Base Accounting - Humidity Cell Test Cuts

Parameter	Unit	Rougher Tls	1st Cl Scav Tls	Whole Tls	Cyclone U/F-Untreated	Cyclone U/F-Desulphidized
LIMS		11249-MAY09	11249-MAY09	11249-MAY09	11249-MAY09	11249-MAY09
Paste pH	units	8.51	6.96	7.48	8.15	8.39
Fizz Rate	---	1	1	1	1	1
Sample weight	g	2.00	2.00	1.99	2.00	1.99
HCl added	mL	20.00	20.00	20.00	20.00	20.00
HCl	Normality	0.10	0.10	0.10	0.10	0.10
NaOH	Normality	0.10	0.10	0.10	0.10	0.10
NaOH to pH=8.3	mL	18.00	17.10	18.10	18.40	18.50
Final pH	units	1.23	1.42	1.22	1.09	1.13
NP[1]	t $CaCO_3$/1000 t	5.0	7.2	4.8	4.0	3.8
AP	t $CaCO_3$/1000 t	1.73	518	125	6.55	1.43
Net NP	t $CaCO_3$/1000 t	3.27	-511.04	-120.69	-2.55	2.37
NP/AP	ratio	2.89	0.01	0.04	0.61	2.66
S	%	0.091	19.4	4.25	0.220	0.046
SO_4	%	0.04	2.80	0.24	0.01	< 0.01
Sulphide	%	0.06	16.6	4.02	0.21	0.05
C	%	0.026	0.089	0.035	0.012	0.020
Carbonate	%	0.032	0.051	0.027	0.025	0.022
CO_3 NP[2]	t $CaCO_3$/1000 t	0.53	0.85	0.45	0.42	0.37
CO_3 Net NP	t $CaCO_3$/1000 t	-1.20	-517	-125	-6.14	-1.06
CO_3 NP/AP	ratio	0.31	0.002	0.004	0.06	0.26
Classification	based on ABA NP[1]	uncertain	PAG	PAG	PAG	uncertain
Classification	based on CO_3 NP[2]	PAG	PAG	PAG	PAG	PAG

[1] *measured in ABA test*
[2] *theoretical, based on CO_3 content alone.*

Green highlighting indicates Net NP values less than 20.
Orange highlighting indicates NP/AP ratios less than 3.
PAG - Potentially Acid Generating based on interpretation of ABA test data alone.
PAN - Potentially Acid Neutralizing based on interpretation of ABA test data alone.
uncertain - acid generation potential is uncertain based on interpretation of ABA test data alone.

Net Acid Generation Analysis

Parameter	Unit	Rougher Tls	1st Cl Scav Tls	Whole Tls	Cyclone U/F-Untreated	Cyclone U/F-Desulphidized
LIMS		10999-JUN09	10999-JUN09	10999-JUN09	10999-JUN09	10999-JUN09
Sample weight	g	1.54	1.50	1.45	1.52	1.50
Vol H_2O_2	mL	150	150	150	150	150
Final pH	units	6.38	2.17	2.31	4.72	6.45
NaOH	Normality	0.10	0.10	0.10	0.10	0.10
Vol NaOH to pH 4.5	mL	0.00	15.70	10.60	0.00	0.00
Vol NaOH to pH 7.0	mL	0.20	34.90	16.40	0.70	0.20
NAG@pH4.5	kg H_2SO_4/t	0	51	36	0	0
NAG@pH7.0	kg H_2SO_4/t	0.6	114	55	2.3	0.7

Shake Flask Extraction (24 h - 3:1 L:S Ratio) - Humidity Cell Test Residues

Parameter	Unit	1st Cl Scav Tls	Whole Tls	Cyclone U/F -Untreated	Cyclone U/F -Desulphidized
LIMS		11229-JUN11	11229-JUN11	15390-APR13	11053-OCT12
Sample weight	g	960	968	1000	1000
Volume D.I. H_2O	mL	3000	3000	3000	3000
Initial pH	units	3.28	3.59	5.96	6.01
Final pH	units	3.07	3.36	5.95	6.49
pH	units	3.46	3.47	6.54	6.78
Alkalinity	mg/L as $CaCO_3$	< 2	< 2	2	3
Acidity	mg/L as $CaCO_3$	471	119	< 2	< 2
Conductivity	µS/cm	2390	445	24	19
SO_4	mg/L	1700	150	2.7	0.8
Hg	mg/L	< 0.0001	< 0.0001	< 0.00001	< 0.0001
Ag	mg/L	0.00048	< 0.00001	0.00001	< 0.00001
Al	mg/L	15.1	3.72	0.02	0.05
As	mg/L	0.0054	0.0014	< 0.0002	0.0020
Ba	mg/L	0.0509	0.0248	0.161	0.0240
Be	mg/L	0.00104	0.00060	< 0.00002	< 0.00002
B	mg/L	0.594	0.0857	0.0436	0.105
Bi	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca	mg/L	437	9.42	1.20	0.89
Cd	mg/L	0.00132	0.000493	0.000028	< 0.000003
Co	mg/L	0.247	0.0469	0.000633	0.000041
Cr	mg/L	0.546	0.0705	< 0.0005	< 0.0005
Cu	mg/L	151	22.9	0.0672	0.0041
Fe	mg/L	90.3	21.9	< 0.003	0.019
K	mg/L	1.31	3.50	1.93	1.41
Li	mg/L	0.003	0.002	0.001	< 0.001
Mg	mg/L	5.41	1.92	0.108	0.192
Mn	mg/L	0.149	0.0870	0.00774	0.00011
Mo	mg/L	0.00019	0.00004	0.00236	0.00240
Na	mg/L	20.2	0.97	0.82	1.02
Ni	mg/L	0.317	0.0780	0.0014	0.0001
Pb	mg/L	0.0412	0.00023	0.00013	0.00021
Sb	mg/L	0.0009	0.0009	0.0004	0.0008
Se	mg/L	0.027	0.005	< 0.001	< 0.001
Si	mg/L	5.53	3.75	2.53	5.54
Sn	mg/L	0.00032	0.00013	0.00044	0.00014
Sr	mg/L	0.178	0.0313	0.0139	0.0084
Ti	mg/L	0.0008	0.0005	< 0.0001	0.0014
Tl	mg/L	0.00029	0.00038	< 0.00002	< 0.00002
U	mg/L	0.00546	0.00239	0.000001	0.000004
V	mg/L	0.00170	0.00005	0.00007	0.00069
W	mg/L	0.00021	0.00009	0.00009	0.00048
Y	mg/L	0.0436	0.0351	0.000022	0.000012
Zn	mg/L	0.125	0.048	0.006	< 0.002

Modified Acid Base Accounting - Washed Humidity Cell Residues

Parameter	Unit	1st Cl Scav Tls	Whole Tls	Cyclone U/F -Untreated	Cyclone U/F -Desulphidized
LIMS		11230-JUN11	11230-JUN11	15391-APR13	11054-OCT12
Paste pH	units	4.05	5.10	8.57	7.79
Fizz Rate	---	1	1	1	1
Sample weight	g	1.98	2.01	2.05	2.01
HCl added	mL	20.00	20.00	20.00	20.00
HCl	Normality	0.10	0.10	0.10	0.10
NaOH	Normality	0.10	0.10	0.10	0.10
NaOH to pH=8.3	mL	19.65	18.78	18.90	18.89
Final pH	units	1.18	1.21	1.08	0.99
NP[1]	t $CaCO_3$/1000 t	0.90	3.00	2.7	2.8
AP	t $CaCO_3$/1000 t	517	113	3.12	0.44
Net NP	t $CaCO_3$/1000 t	-516	-110	-0.42	2.36
NP/AP	ratio	0.002	0.03	0.86	6.40
S	%	16.7	3.67	0.140	0.044
SO_4	%	0.18	0.06	0.04	0.03
Sulphide	%	16.5	3.60	0.10	0.01
C	%	0.041	0.026	0.023	0.016
Carbonate	%	0.015	0.012	0.020	0.023
CO_3 NP[2]	t $CaCO_3$/1000 t	0.25	0.20	0.33	0.38
CO_3 Net NP	t $CaCO_3$/1000 t	-517	-113	-2.79	-0.06
CO_3 NP/AP	ratio	0.0005	0.002	0.11	0.87
Classification	based on ABA NP[1]	PAG	PAG	PAG	uncertain
Classification	based on CO_3 NP[2]	PAG	PAG	PAG	PAG

[1] *measured in ABA test*

[2] *theoretical, based on CO_3 content alone.*

Green highlighting indicates Net NP values less than 20.

Orange highlighting indicates NP/AP ratios less than 3.

PAG - Potentially Acid Generating based on interpretation of ABA test data alone.

PAN - Potentially Acid Neutralizing based on interpretation of ABA test data alone.

uncertain - acid generation potential is uncertain based on interpretation of ABA test data alone.

Net Acid Generation Analysis - Washed Humidity Cell Residues

Parameter	Unit	1st Cl Scav Tls	Whole Tls	Cyclone U/F -Untreated	Cyclone U/F -Desulphidized
LIMS		11231-JUN11	11231-JUN11	15392-APR13	11055-OCT12
Sample weight	g	1.52	1.49	1.57	1.51
Vol H_2O_2	mL	150	150	150	150
Final pH	units	1.91	2.25	4.11	5.34
NaOH	Normality	0.50	0.10	0.10	0.10
Vol NaOH to pH 4.5	mL	6.10	13.30	0.13	0.00
Vol NaOH to pH 7.0	mL	8.70	19.50	0.47	1.51
NAG (pH 4.5)	kg H_2SO_4/tonne	98	44	0.4	0
NAG (pH 7.0)	kg H_2SO_4/tonne	140	64	1.5	4.9

Specific Gravity

Sample Name	S. G.
Whole Tls	2.80
Rougher Tls	2.69
1st Cl Sc Tls	3.22
Cyclone U/F Untreated	2.69

Slump

Sample Name	Slump (mm)
LIMS	11270-MAY09
1st Cl Sc Tls	65

Appendix B – Analytical Certificates of Analysis

SGS Lakefield Research Limited
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Internal Dept 14
Attn : Stephanie Downing

---, ---

Phone: ---
Fax:---

Wednesday, June 17, 2009

Date Rec. : 03 June 2009
LR Report : **CA02079-JUN09**
Project : CALR-12074-002
Client Ref : MI4500-Jun09

CERTIFICATE OF ANALYSIS

Final Report

Sample ID	SiO2 %	Al2O3 %	Fe2O3 %	MgO %	CaO %	Na2O %	K2O %
1: Rougher Tls	79.0	11.7	1.00	0.93	0.28	0.06	3.22
2: 1st Cl Scav Tails	43.2	11.7	23.0	0.78	0.81	0.06	2.94
3: Whole Tails	71.8	11.8	5.87	0.89	0.39	0.04	3.15
4: Cyclone U/F Untreated	85.6	8.00	0.93	0.64	0.20	0.04	2.30
5-DUP: Cyclone U/F Untreated	85.6	7.99	0.95	0.65	0.20	0.04	2.29

Sample ID	TiO2 %	P2O5 %	MnO %	Cr2O3 %	V2O5 %	LOI %	Sum %
1: Rougher Tls	1.01	0.20	< 0.01	0.03	0.03	2.91	100.4
2: 1st Cl Scav Tails	0.72	0.24	< 0.01	0.06	0.04	15.1	98.6
3: Whole Tails	0.94	0.21	< 0.01	0.04	0.02	5.36	100.5
4: Cyclone U/F Untreated	1.01	0.13	< 0.01	0.04	0.02	1.88	100.8
5-DUP: Cyclone U/F Untreated	1.02	0.14	< 0.01	0.04	0.02	1.89	100.8

Darlene Charlton
Project Coordinator,
Mineral Services, Analytical

OnLine LIMS

SGS Lakefield Research Limited
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Project : CALR-12074-002

Environmental Met
Attn : Barb Bowman

Tuesday, June 16, 2009

Date Rec. : 01 June 2009
LR Report: **CA10997-JUN09**
Reference: 12074-002-07

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Rougher Tls	6: 1st Cl Scav Tls	7: Whole Tls	8: Cyclone U/F Untreated
Sample Date & Time						
Mercury [µg/g]	05-Jun-09	09:01	< 0.1	< 0.1	< 0.1	< 0.1
Aluminum [µg/g]	11-Jun-09	13:18	61000	61000	60000	41000
Silver [g/t]	10-Jun-09	12:56	0.28	2.3	0.73	0.34
Arsenic [µg/g]	10-Jun-09	12:56	1.7	13	4.8	3.0
Barium [µg/g]	10-Jun-09	12:56	250	240	240	180
Beryllium [µg/g]	10-Jun-09	12:56	2.2	2.1	2.2	1.7
Boron [µg/g]	11-Jun-09	13:18	5	100	27	7
Bismuth [µg/g]	10-Jun-09	12:56	1.4	8.0	2.9	1.0
Calcium [µg/g]	11-Jun-09	13:18	1900	5500	2600	1300
Cadmium [µg/g]	10-Jun-09	12:56	0.11	0.13	0.06	0.09
Cobalt [µg/g]	10-Jun-09	12:56	2.8	91	22	2.6
Chromium [µg/g]	10-Jun-09	12:56	180	370	240	210
Copper [µg/g]	11-Jun-09	13:18	650	5000	1600	1200
Iron [µg/g]	11-Jun-09	13:17	7300	160000	41000	6900
Potassium [µg/g]	11-Jun-09	13:17	28000	26000	27000	21000
Lithium [µg/g]	10-Jun-09	12:56	8	8	7	4
Magnesium [µg/g]	11-Jun-09	13:17	5300	4400	4900	3600
Manganese [µg/g]	10-Jun-09	12:56	36	62	41	31
Molybdenum [µg/g]	10-Jun-09	12:56	56	78	65	130
Sodium [µg/g]	11-Jun-09	13:17	470	440	380	310
Nickel [µg/g]	10-Jun-09	12:56	41	82	26	11
Lead [µg/g]	10-Jun-09	12:56	130	170	140	67
Antimony [g/t]	10-Jun-09	12:56	< 0.8	< 0.8	< 0.8	< 0.8
Selenium [µg/g]	10-Jun-09	12:56	1.0	36	7.4	1.6
Tin [µg/g]	10-Jun-09	12:56	15	19	16	10
Silicon [%]	16-Jun-09	08:47	34.6	18.8	32.3	38.5
Strontium [µg/g]	10-Jun-09	12:56	180	310	200	83
Titanium [µg/g]	11-Jun-09	13:17	1200	1600	1300	1100
Thallium [µg/g]	10-Jun-09	12:56	0.32	0.36	0.32	0.21

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Project : CALR-12074-002

LR Report : **CA10997-JUN09**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Rougher Tls	6: 1st Cl Scav Tls	7: Whole Tls	8: Cyclone U/F Untreated
Uranium [µg/g]	10-Jun-09	12:56	1.2	1.7	1.3	0.83
Vanadium [µg/g]	10-Jun-09	12:56	110	110	110	74
Yttrium [µg/g]	10-Jun-09	12:56	6.0	7.8	6.0	4.6
Tungsten [g/t]	10-Jun-09	12:56	27	34	29	19
Zinc [µg/g]	11-Jun-09	13:17	22	67	31	20

Dianne Griffin
Project Specialist

OnLine LIMS

D.I. Leach @ 3:1 ratio filter=0.45µ, 24hr

Project : CALR-12074-002

SGS Lakefield Research Limited
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Environmental Met
Attn : Barb Bowman

Thursday, June 11, 2009

Date Rec. : 01 June 2009
LR Report: **CA10998-JUN09**
Reference: 12074-002-07

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Rougher Tls	6: 1st Cl Scav Tls	7: Whole Tls	8: Cyclone U/F Untreated
Sample Date & Time						
Sample [weight(g)]	05-Jun-09	11:22	250	250	250	250
Volume mL [D.I. H2O]	05-Jun-09	11:22	750	750	750	750
InitialpH [units]	05-Jun-09	11:22	8.86	6.89	7.65	8.60
Final pH [units]	05-Jun-09	11:22	8.57	6.88	7.51	9.02
pH [no unit]	10-Jun-09	14:01	7.48	7.70	7.85	7.59
Conductivity [uS/cm]	10-Jun-09	14:01	216	2410	927	94
Alkalinity [mg/L as CaCO3]	10-Jun-09	14:01	23	151	68	15
Acidity [mg/L as CaCO3]	10-Jun-09	14:01	< 2	< 2	< 2	< 2
Chloride [mg/L]	10-Jun-09	16:26	2.2	2.3	2.1	1.6
Fluoride [mg/L]	10-Jun-09	14:15	1.65	1.79	1.69	0.71
Sulphate [mg/L]	10-Jun-09	16:26	72	1800	470	25
Mercury [mg/L]	10-Jun-09	13:47	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	08-Jun-09	09:28	0.00007	0.00002	0.00002	0.00003
Aluminum [mg/L]	08-Jun-09	15:57	0.08	< 0.01	< 0.01	0.15
Arsenic [mg/L]	08-Jun-09	09:28	0.0020	0.0028	0.0007	0.0034
Boron [mg/L]	08-Jun-09	09:28	0.0196	0.0249	0.0193	0.0358
Barium [mg/L]	08-Jun-09	09:28	0.0268	0.0409	0.0309	0.234
Beryllium [mg/L]	08-Jun-09	09:28	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Bismuth [mg/L]	08-Jun-09	09:28	0.00010	0.00004	0.00002	0.00002
Calcium [mg/L]	08-Jun-09	15:57	30.9	656	198	12.8
Cadmium [mg/L]	08-Jun-09	09:28	0.000021	0.000403	0.000074	0.000020
Cobalt [mg/L]	08-Jun-09	09:28	0.000107	0.0685	0.00577	0.000202
Chromium [mg/L]	08-Jun-09	09:28	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Copper [mg/L]	08-Jun-09	09:28	0.0037	0.123	0.0273	0.0080
Iron [mg/L]	08-Jun-09	15:57	< 0.01	< 0.01	< 0.01	< 0.01
Potassium [mg/L]	08-Jun-09	15:57	12.7	25.3	16.8	2.84
Lithium [mg/L]	08-Jun-09	09:28	0.002	0.012	0.004	0.001
Magnesium [mg/L]	08-Jun-09	15:57	1.69	15.3	6.05	0.727
Manganese [mg/L]	08-Jun-09	09:28	0.0123	2.24	0.373	0.00906
Molybdenum [mg/L]	08-Jun-09	09:28	0.0354	0.0116	0.0325	0.0538
Sodium [mg/L]	08-Jun-09	15:56	2.02	3.69	2.19	2.53
Nickel [mg/L]	08-Jun-09	09:28	0.0009	0.0983	0.0060	0.0001

D.I. Leach @ 3:1 ratio filter=0.45µ, 24hr

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Project : CALR-12074-002

LR Report : **CA10998-JUN09**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Rougher Tls	6: 1st Cl Scav Tls	7: Whole Tls	8: Cyclone U/F Untreated
Lead [mg/L]	08-Jun-09	09:28	0.00005	< 0.00002	0.00004	0.00007
Antimony [mg/L]	08-Jun-09	09:28	0.0009	0.0003	0.0004	0.0008
Selenium [mg/L]	08-Jun-09	09:28	0.002	0.013	0.004	0.002
Tin [mg/L]	08-Jun-09	09:28	0.00005	0.00004	0.00006	0.00003
Silica [mg/L]	08-Jun-09	15:56	2.44	2.62	2.19	2.00
Strontium [mg/L]	10-Jun-09	08:34	0.139	0.840	0.421	0.0745
Titanium [mg/L]	08-Jun-09	09:28	0.0003	0.0054	0.0017	0.0012
Thallium [mg/L]	08-Jun-09	09:28	0.00004	0.00050	0.00013	< 0.00002
Uranium [mg/L]	08-Jun-09	09:28	0.000069	0.000832	0.000304	0.000034
Vanadium [mg/L]	08-Jun-09	09:28	0.00067	0.00027	0.00015	0.00169
Tungsten [mg/L]	08-Jun-09	09:28	0.00258	0.00017	0.00018	0.00233
Yttrium [mg/L]	08-Jun-09	09:28	0.000002	0.000017	0.000007	0.000006
Zinc [mg/L]	08-Jun-09	09:28	< 0.001	0.011	0.002	0.002

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Environmental Met
Attn : Barb Bowman

Wednesday, April 29, 2009

Date Rec. : 09 April 2009
LR Report: **CA11155-APR09**
Reference: 12074-002-01

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Rougher Tls	6: Rougher Tls Diss
Sample Date & Time			09-Apr-09	09-Apr-09
Temperature Upon Receipt [°C]	---	---	17.0	17.0
Tot. Suspended Solids [mg/L]	16-Apr-09	10:17	23	---
Solids (Total Dissolved) [mg/L]	15-Apr-09	10:57	314	---
EMF [mV]	13-Apr-09	10:58	186	---
Fluoride [mg/L]	15-Apr-09	09:57	3.56	---
pH [no unit]	14-Apr-09	14:03	7.97	---
Conductivity [uS/cm]	14-Apr-09	14:03	520	---
Alkalinity [mg/L as CaCO3]	14-Apr-09	14:03	87	---
Acidity [mg/L as CaCO3]	14-Apr-09	14:03	< 2	---
Sulphate [mg/L]	28-Apr-09	15:23	140	---
Chloride [mg/L]	20-Apr-09	10:07	22	---
Nitrite (as nitrogen) [mg/L]	20-Apr-09	10:07	< 0.06	---
Nitrate (as nitrogen) [mg/L]	20-Apr-09	10:07	0.15	---
Ammonia+Ammonium (N) [mg/L]	16-Apr-09	11:08	< 0.1	---
Thiosalts [as S2O3 mg/L]	24-Apr-09	12:43	< 10	---
Mercury [mg/L]	15-Apr-09	08:03	0.0045	0.0007
Hardness [mg/L as CaCO3]	15-Apr-09	09:18	155	151
Silver [mg/L]	15-Apr-09	11:16	0.00008	0.00003
Aluminum [mg/L]	15-Apr-09	11:16	0.583	0.0318
Arsenic [mg/L]	15-Apr-09	11:16	0.0014	0.0010
Barium [mg/L]	15-Apr-09	09:18	0.0339	0.0246
Beryllium [mg/L]	15-Apr-09	11:16	0.00003	< 0.00002
Boron [mg/L]	15-Apr-09	11:16	0.0833	0.0810
Bismuth [mg/L]	15-Apr-09	11:16	0.00007	< 0.00001
Calcium [mg/L]	15-Apr-09	09:18	52.5	51.0
Cadmium [mg/L]	15-Apr-09	11:16	0.000023	0.000014
Cobalt [mg/L]	15-Apr-09	11:16	0.000807	0.000998
Chromium [mg/L]	15-Apr-09	11:16	0.0027	< 0.0005
Copper [mg/L]	15-Apr-09	11:16	0.0673	0.0178

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Project : CALR-12074-002

LR Report : **CA11155-APR09**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Rougher Tls	6: Rougher Tls Diss
Iron [mg/L]	15-Apr-09	09:18	0.43	< 0.01
Potassium [mg/L]	15-Apr-09	09:18	41.1	39.7
Lithium [mg/L]	15-Apr-09	11:16	0.005	0.005
Magnesium [mg/L]	15-Apr-09	09:18	5.80	5.74
Manganese [mg/L]	15-Apr-09	11:16	0.0750	0.0715
Molybdenum [mg/L]	15-Apr-09	11:16	0.166	0.162
Sodium [mg/L]	15-Apr-09	09:18	17.4	17.0
Nickel [mg/L]	15-Apr-09	11:16	0.0020	0.0008
Lead [mg/L]	15-Apr-09	11:16	0.00125	0.00014
Antimony [mg/L]	15-Apr-09	11:16	0.0014	0.0009
Selenium [mg/L]	15-Apr-09	11:16	0.007	0.007
Silica [mg/L]	15-Apr-09	09:18	4.03	2.93
Tin [mg/L]	15-Apr-09	11:16	0.00281	0.00246
Strontium [mg/L]	15-Apr-09	09:18	0.318	0.310
Titanium [mg/L]	15-Apr-09	11:16	0.0094	0.0003
Thallium [mg/L]	15-Apr-09	11:16	< 0.0002	< 0.0002
Uranium [mg/L]	15-Apr-09	11:16	0.000157	0.000107
Vanadium [mg/L]	15-Apr-09	11:16	0.00184	0.00038
Tungsten [mg/L]	15-Apr-09	11:16	0.00581	0.00556
Yttrium [mg/L]	15-Apr-09	11:16	0.000196	< 0.000001
Zinc [mg/L]	15-Apr-09	11:16	0.005	0.003

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Environmental Met
Attn : Barb Bowman

Friday, April 24, 2009

Date Rec. : 14 April 2009
LR Report: **CA11206-APR09**

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls	6: Whole Tls	7: 1st Cl Scav Tls DISS	8: Whole Tls DISS
Sample Date & Time			Date:n/a	Date:n/a	Date:n/a	Date:n/a
Temperature Upon Receipt [°C]	---	---	17.0	17.0	17.0	17.0
Tot. Suspended Solids [mg/L]	16-Apr-09	10:29	13	32	---	---
Solids (Total Dissolved) [mg/L]	20-Apr-09	09:22	306	283	---	---
EMF [mV]	16-Apr-09	08:39	122	139	---	---
Fluoride [mg/L]	20-Apr-09	08:39	1.45	2.77	---	---
pH [no unit]	15-Apr-09	15:13	8.00	8.08	---	---
Conductivity [uS/cm]	15-Apr-09	15:13	430	450	---	---
Alkalinity [mg/L as CaCO3]	15-Apr-09	15:13	35	69	---	---
Acidity [mg/L as CaCO3]	15-Apr-09	15:13	21	< 2	---	---
Sulphate [mg/L]	24-Apr-09	11:46	120	110	---	---
Chloride [mg/L]	24-Apr-09	11:46	19	20	---	---
Nitrite (as nitrogen) [mg/L]	22-Apr-09	11:31	< 0.06	< 0.06	---	---
Nitrate (as nitrogen) [mg/L]	22-Apr-09	11:31	< 0.05	< 0.05	---	---
Ammonia+Ammonium (N) [mg/L]	16-Apr-09	14:47	< 0.1	< 0.1	---	---
Thiosalts [as S2O3 mg/L]	17-Apr-09	09:13	43	27	---	---
Mercury [mg/L]	20-Apr-09	10:00	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hardness [mg/L as CaCO3]	20-Apr-09	10:05	156	158	153	156
Silver [mg/L]	20-Apr-09	13:04	0.00129	0.00079	0.00407	0.00110
Aluminum [mg/L]	20-Apr-09	13:04	0.249	0.415	0.0698	0.0389
Arsenic [mg/L]	20-Apr-09	13:04	0.0014	0.0012	0.0011	0.0010
Barium [mg/L]	20-Apr-09	10:05	0.0194	0.0282	0.0157	0.0211
Beryllium [mg/L]	20-Apr-09	13:04	0.00004	0.00006	0.00014	0.00009
Boron [mg/L]	20-Apr-09	13:04	0.0518	0.0658	0.0502	0.0629
Bismuth [mg/L]	20-Apr-09	13:04	0.00020	0.00017	0.00018	0.00008
Calcium [mg/L]	20-Apr-09	10:05	54.5	53.5	53.2	52.8
Cadmium [mg/L]	20-Apr-09	13:04	0.000032	0.000023	0.001835	0.000283
Cobalt [mg/L]	20-Apr-09	13:04	0.000963	0.001073	0.000480	0.000614
Chromium [mg/L]	20-Apr-09	13:04	0.0037	0.0042	0.0007	0.0007
Copper [mg/L]	20-Apr-09	13:04	0.310	0.145	0.217	0.0613

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Project : CALR-12074-002

LR Report : **CA11206-APR09**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls	6: Whole Tls	7: 1st Cl Scav Tls DISS	8: Whole Tls DISS
Iron [mg/L]	20-Apr-09	10:05	1.11	1.05	< 0.01	< 0.01
Potassium [mg/L]	20-Apr-09	10:05	24.1	34.3	23.3	33.2
Lithium [mg/L]	20-Apr-09	13:04	0.005	0.006	0.005	0.005
Magnesium [mg/L]	20-Apr-09	10:05	4.97	5.96	4.93	5.92
Manganese [mg/L]	20-Apr-09	13:04	0.01314	0.04027	0.03205	0.04063
Molybdenum [mg/L]	20-Apr-09	13:04	0.161	0.151	0.157	0.149
Sodium [mg/L]	20-Apr-09	10:05	13.5	15.1	13.4	15.0
Nickel [mg/L]	20-Apr-09	13:04	0.0021	0.0023	0.0014	0.0015
Lead [mg/L]	20-Apr-09	13:04	0.00088	0.00120	0.00031	0.00020
Antimony [mg/L]	20-Apr-09	13:04	0.0015	0.0012	0.0046	0.0013
Selenium [mg/L]	20-Apr-09	13:04	0.008	0.008	0.008	0.008
Silica [mg/L]	20-Apr-09	10:05	1.80	3.25	1.23	2.35
Tin [mg/L]	20-Apr-09	13:04	0.00269	0.00201	0.00245	0.00171
Strontium [mg/L]	20-Apr-09	10:05	0.208	0.273	0.200	0.266
Titanium [mg/L]	20-Apr-09	13:04	0.0033	0.0066	0.0003	0.0004
Thallium [mg/L]	20-Apr-09	13:04	< 0.0002	< 0.0002	0.0002	< 0.0002
Uranium [mg/L]	20-Apr-09	13:04	0.000352	0.000294	0.000477	0.000353
Vanadium [mg/L]	20-Apr-09	13:04	0.00063	0.00118	0.00791	0.01296
Tungsten [mg/L]	20-Apr-09	13:04	0.00392	0.00404	0.00388	0.00381
Yttrium [mg/L]	20-Apr-09	13:04	0.000099	0.000190	0.000103	0.000138
Zinc [mg/L]	20-Apr-09	13:04	0.003	0.004	0.006	0.004

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Environmental Met
Attn : Barb Bowman

Thursday, May 14, 2009

Date Rec. : 01 May 2009
LR Report: **CA11074-MAY09**
Reference: 12074-002-03

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated	6: Cyclone U/F-Desulphidized	7: Cyclone U/F-Untreated Diss	8: Cyclone U/F-Desulphidized Diss
Sample Date & Time			Date:N/A	Date:N/A	Date:N/A	Date:N/A
Temperature Upon Receipt [°C]	---	---	21.0	21.0	21.0	21.0
Tot. Suspended Solids [mg/L]	06-May-09	10:58	< 2	< 2	---	---
Solids (Total Dissolved) [mg/L]	14-May-09	14:46	234	174	---	---
EMF [mV]	05-May-09	10:30	280	201	---	---
Fluoride [mg/L]	06-May-09	09:34	1.88	1.78	---	---
pH [no unit]	05-May-09	14:12	8.07	8.10	---	---
Conductivity [uS/cm]	05-May-09	14:12	380	310	---	---
Alkalinity [mg/L as CaCO3]	05-May-09	14:12	99	91	---	---
Acidity [mg/L as CaCO3]	07-May-09	15:15	< 2	< 2	---	---
Sulphate [mg/L]	07-May-09	11:04	61	34	---	---
Chloride [mg/L]	07-May-09	11:04	17	16	---	---
Nitrite (as nitrogen) [mg/L]	07-May-09	11:05	< 0.06	< 0.06	---	---
Nitrate (as nitrogen) [mg/L]	07-May-09	11:05	< 0.05	< 0.05	---	---
Ammonia+Ammonium (N) [mg/L]	07-May-09	08:54	< 0.1	< 0.1	---	---
Thiosalts [as S2O3 mg/L]	12-May-09	12:30	< 10	< 10	---	---
Mercury [mg/L]	06-May-09	09:00	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hardness [mg/L as CaCO3]	07-May-09	15:16	140	97.9	135	97.6
Silver [mg/L]	08-May-09	10:41	0.00001	0.00001	< 0.00001	< 0.00001
Aluminum [mg/L]	08-May-09	10:41	0.0886	0.194	0.0476	0.110
Arsenic [mg/L]	08-May-09	10:41	0.0008	0.0011	0.0010	0.0013
Barium [mg/L]	07-May-09	15:17	0.0413	0.0436	0.0394	0.0421
Beryllium [mg/L]	08-May-09	10:41	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Boron [mg/L]	08-May-09	10:41	0.0412	0.0238	0.0392	0.0235
Bismuth [mg/L]	08-May-09	10:41	< 0.00001	< 0.00001	< 0.00001	0.00002
Calcium [mg/L]	07-May-09	15:17	48.2	33.4	46.5	33.1
Cadmium [mg/L]	08-May-09	10:41	0.000017	0.000009	0.000064	0.00864
Cobalt [mg/L]	08-May-09	10:41	0.000511	0.000177	0.000742	0.00265
Chromium [mg/L]	08-May-09	10:41	< 0.0005	0.0008	< 0.0005	< 0.0005
Copper [mg/L]	08-May-09	10:41	0.0175	0.0064	0.0144	0.0048
Iron [mg/L]	07-May-09	15:17	0.04	0.06	< 0.01	0.02
Potassium [mg/L]	07-May-09	15:17	21.3	25.6	20.4	25.3

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Project : CALR-12074-002

LR Report : **CA11074-MAY09**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated	6: Cyclone U/F-Desulphidized	7: Cyclone U/F-Untreated Diss	8: Cyclone U/F-Desulphidized Diss
Lithium [mg/L]	08-May-09	10:41	0.003	0.002	0.003	0.002
Magnesium [mg/L]	07-May-09	15:17	4.65	3.53	4.54	3.60
Manganese [mg/L]	08-May-09	10:41	0.0790	0.0230	0.0764	0.0499
Molybdenum [mg/L]	08-May-09	10:41	0.0908	0.0620	0.0876	0.0615
Sodium [mg/L]	07-May-09	15:17	10.5	9.40	11.1	10.2
Nickel [mg/L]	08-May-09	10:41	0.0008	0.0006	0.0006	0.0013
Lead [mg/L]	08-May-09	10:41	0.00018	0.00063	< 0.00002	0.00053
Antimony [mg/L]	08-May-09	10:41	0.0010	0.0014	0.0010	0.0015
Selenium [mg/L]	08-May-09	10:41	0.001	0.001	0.002	< 0.001
Silica [mg/L]	07-May-09	15:17	4.13	3.30	4.01	3.12
Tin [mg/L]	08-May-09	10:41	0.00320	0.00303	0.00337	0.00318
Strontium [mg/L]	07-May-09	15:17	0.254	0.185	0.248	0.186
Titanium [mg/L]	08-May-09	10:41	0.0014	0.0023	0.0007	0.0005
Thallium [mg/L]	08-May-09	10:41	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Uranium [mg/L]	08-May-09	10:41	0.000500	0.000631	0.000389	0.000590
Vanadium [mg/L]	08-May-09	10:41	0.00072	0.00130	0.00159	0.0154
Tungsten [mg/L]	08-May-09	10:41	0.00794	0.0100	0.00734	0.00945
Yttrium [mg/L]	08-May-09	10:41	0.000024	0.000027	0.000008	0.000009
Zinc [mg/L]	08-May-09	10:41	0.001	0.006	0.002	0.010

Dianne Griffin
Project Specialist

OnLine LIMS

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Modified ABA (Price 1997)

Project : CALR-12074-002

Environmental Met
Attn : Barb Bowman

Friday, May 29, 2009

Date Rec. : 13 May 2009
LR Report: **CA11249-MAY09**

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Rougher Tls	6: 1st Cl Scav Tls	7: Whole Tls	8: Cyclone U/F-Untreated	9: Cyclone U/F-Desulphidized
Sample Date & Time			N/A	N/A	N/A	N/A	N/A
Paste pH [units]	29-May-09	12:51	8.51	6.96	7.48	8.15	8.39
Fizz Rate [---]	29-May-09	12:51	1	1	1	1	1
Sample [weight(g)]	29-May-09	12:51	2.00	2.00	1.99	2.00	1.99
HCl added [mL]	29-May-09	12:51	20.00	20.00	20.00	20.00	20.00
HCl [Normality]	29-May-09	12:51	0.10	0.10	0.10	0.10	0.10
NaOH [Normality]	29-May-09	12:51	0.10	0.10	0.10	0.10	0.10
NaOH to [pH=8.3 mL]	29-May-09	12:51	18.00	17.10	18.10	18.40	18.50
Final pH [units]	29-May-09	12:51	1.23	1.42	1.22	1.09	1.13
NP [t CaCO3/1000t]	29-May-09	12:51	5.0	7.2	4.8	4.0	3.8
AP [t CaCO3/1000 t]	29-May-09	12:51	1.73	518	125	6.55	1.43
Net NP [t CaCO3/1000 t]	29-May-09	12:51	3.27	-511.04	-120.69	-2.55	2.37
NP/AP [ratio]	29-May-09	12:51	2.89	0.01	0.04	0.61	2.66
Total Sulphur [%]	29-May-09	09:51	0.091	19.4	4.25	0.220	0.046
Acid Leachable SO4-S [%]	29-May-09	09:52	0.04	2.80	0.24	0.01	< 0.01
Sulphide-S [%]	28-May-09	10:56	0.06	16.6	4.02	0.21	0.05
Total Carbon [%]	29-May-09	09:52	0.026	0.089	0.035	0.012	0.020
Carbonate (CO3) [%]	28-May-09	09:43	0.032	0.051	0.027	0.025	0.022

OnLine LIMS

Modified ABA (Price 1997)

Project : CALR-12074-002

LR Report : **CA11249-MAY09**

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*NP (Neutralization Potential)

$$= \frac{50 \times (N \text{ of HCL} \times \text{Total HCL added} - N \text{ NaOH} \times \text{NaOH added})}{\text{Weight of Sample}}$$

*AP (Acid Potential) = % Sulphide Sulphur x 31.25
*Net NP (Net Neutralization Potential) = NP-AP
NP/AP Ratio = NP/AP
*Results expressed as tonnes CaCO3 equivalent/1000 tonnes of material
Samples with a % Sulphide value of <0.01 will be calculated using a 0.01 value.

Sulphur analysis performed following BC ARD Guidelines (Price 1997)

Dianne Griffin
Project Specialist

OnLine LIMS

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Lakefield - Ontario - KOL 2HO
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Modified ABA (Price 1997)

Project : CALR-12074-002

Environmental Met
Attn : Barb Bowman

Friday, May 22, 2009

Date Rec. : 05 May 2009
LR Report: **CA11125-MAY09**

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Rougher Tls	6: 1st Cl Scav Tls	7: Whole Tls	8: Cyclone U/F-Untreated	9: Cyclone U/F-Desulphidized
Sample Date & Time			N/A	N/A	N/A	N/A	N/A
Paste pH [units]	22-May-09	11:30	8.72	7.19	7.86	9.05	9.82
Fizz Rate [---]	22-May-09	11:30	1	1	1	1	1
Sample [weight(g)]	22-May-09	11:30	1.96	2.03	2.03	2.05	1.99
HCl added [mL]	22-May-09	11:30	20.00	20.00	20.00	20.00	20.00
HCl [Normality]	22-May-09	11:30	0.10	0.10	0.10	0.10	0.10
NaOH [Normality]	22-May-09	11:30	0.10	0.10	0.10	0.10	0.10
NaOH to [pH=8.3 mL]	22-May-09	11:30	18.10	16.80	18.40	18.20	17.90
Final pH [units]	22-May-09	11:30	1.61	1.59	1.50	1.51	1.37
NP [t CaCO3/1000t]	22-May-09	11:30	4.8	7.9	3.9	4.4	5.3
AP [t CaCO3/1000 t]	22-May-09	11:30	1.85	556	117	2.44	0.77
Net NP [t CaCO3/1000 t]	22-May-09	11:30	2.95	-547.99	-112.89	1.96	4.53
NP/AP [ratio]	22-May-09	11:30	2.59	0.01	0.03	1.81	6.92
Total Sulphur [%]	13-May-09	12:43	0.120	18.8	4.20	0.168	0.050
Acid Leachable SO4-S [%]	22-May-09	10:09	0.06	1.04	0.46	0.09	0.03
Sulphide-S [%]	22-May-09	10:09	0.06	17.8	3.74	0.08	0.02
Total Carbon [%]	13-May-09	12:43	0.036	0.101	0.048	0.030	0.028
Carbonate (CO3) [%]	14-May-09	12:24	0.053	0.025	< 0.005	< 0.005	0.016

Modified ABA (Price 1997)

Project : CALR-12074-002

LR Report : **CA11125-MAY09**

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Phone: 705-652-2000 FAX: 705-652-6365

*NP (Neutralization Potential)

$$= \frac{50 \times (N \text{ of HCL} \times \text{Total HCL added} - N \text{ NaOH} \times \text{NaOH added})}{\text{Weight of Sample}}$$

*AP (Acid Potential) = % Sulphide Sulphur x 31.25
*Net NP (Net Neutralization Potential) = NP-AP
NP/AP Ratio = NP/AP
*Results expressed as tonnes CaCO3 equivalent/1000 tonnes of material
Samples with a % Sulphide value of <0.01 will be calculated using a 0.01 value.

Sulphur analysis performed following BC ARD Guidelines (Price 1997)

Dianne Griffin
Project Specialist

OnLine LIMS

SGS Lakefield Research Limited
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Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

NAG Test

Project : CALR-12074-002

Environmental Met
Attn : Barb Bowman

Monday, June 08, 2009

Date Rec. : 01 June 2009
LR Report: **CA10999-JUN09**
Reference: 12074-002-07

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Rougher Tls	6: 1st Cl Scav Tls	7: Whole Tls	8: Cyclone U/F Untreated	9: Cyclone U/F Desulphidized
Sample Date & Time							
Sample [weight(g)]	05-Jun-09	14:38	1.54	1.50	1.45	1.52	1.50
vol H2O2 [mL]	05-Jun-09	14:38	150	150	150	150	150
Final pH [units]	05-Jun-09	14:38	6.38	2.17	2.31	4.72	6.45
NaOH [Normality]	05-Jun-09	14:38	0.10	0.10	0.10	0.10	0.10
Vol NaOH to PH 4.5 [mL]	05-Jun-09	14:38	0.00	15.70	10.60	0.00	0.00
Vol NaOH to PH 7.0 [mL]	05-Jun-09	14:38	0.20	34.90	16.40	0.70	0.20
NAG [@pH4.5]	05-Jun-09	14:38	0	51	36	0	0
NAG [@pH7]	05-Jun-09	14:38	0.6	114	55	2.3	0.7

NAG = (49 x Vol. of base x N of base)/sample weight
kg H2SO4/tonne

Dianne Griffin
Project Specialist

OnLine LIMS

D.I. Leach @ 3:1 ratio filter=0.45µ, 24hr

Project : CALR-12074-002

SGS Canada Inc.
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Wednesday, June 29, 2011

Environmental Met
Attn : Barb Bowman

Date Rec. : 16 June 2011
LR Report: **CA11229-JUN11**
Reference: Hum Cell Shutdown

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls	6: Whole Tls
Sample Date & Time				
Sample weight [g]	20-Jun-11	08:35	960	968
Volume D.I. H2O [mL]	20-Jun-11	08:35	3000	3000
Initial pH [units]	20-Jun-11	08:35	3.28	3.59
Final pH [units]	20-Jun-11	08:35	3.07	3.36
pH [units]	22-Jun-11	20:19	3.46	3.47
Alkalinity [mg/L as CaCO3]	22-Jun-11	20:19	< 2	< 2
Acidity [mg/L as CaCO3]	22-Jun-11	20:19	471	119
Conductivity [µS/cm]	22-Jun-11	20:19	2390	445
Sulphate [mg/L]	27-Jun-11	09:21	1700	150
Mercury [mg/L]	21-Jun-11	08:36	< 0.0001	< 0.0001
Silver [mg/L]	21-Jun-11	15:16	0.00048	< 0.00001
Aluminum [mg/L]	21-Jun-11	15:16	15.1	3.72
Arsenic [mg/L]	21-Jun-11	15:16	0.0054	0.0014
Barium [mg/L]	21-Jun-11	15:16	0.0509	0.0248
Beryllium [mg/L]	21-Jun-11	15:16	0.00104	0.00060
Boron [mg/L]	21-Jun-11	15:16	0.594	0.0857
Bismuth [mg/L]	21-Jun-11	15:16	< 0.00001	< 0.00001
Calcium [mg/L]	21-Jun-11	15:16	437	9.42
Cadmium [mg/L]	21-Jun-11	15:16	0.00132	0.000493
Cobalt [mg/L]	21-Jun-11	15:16	0.247	0.0469
Chromium [mg/L]	21-Jun-11	15:16	0.546	0.0705
Copper [mg/L]	21-Jun-11	15:16	151	22.9
Iron [mg/L]	21-Jun-11	15:16	90.3	21.9
Potassium [mg/L]	21-Jun-11	15:16	1.31	3.50
Lithium [mg/L]	21-Jun-11	15:16	0.003	0.002
Magnesium [mg/L]	21-Jun-11	15:16	5.41	1.92
Manganese [mg/L]	21-Jun-11	15:16	0.149	0.0870
Molybdenum [mg/L]	21-Jun-11	15:16	0.00019	0.00004
Sodium [mg/L]	21-Jun-11	15:16	20.2	0.97
Nickel [mg/L]	21-Jun-11	15:16	0.317	0.0780
Lead [mg/L]	21-Jun-11	15:16	0.0412	0.00023
Antimony [mg/L]	21-Jun-11	15:16	0.0009	0.0009

D.I. Leach @ 3:1 ratio filter=0.45µ, 24hr

Project : CALR-12074-002

LR Report : **CA11229-JUN11**

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls	6: Whole Tls
Selenium [mg/L]	21-Jun-11	15:16	0.027	0.005
Silicon [mg/L]	21-Jun-11	15:16	5.53	3.75
Tin [mg/L]	21-Jun-11	15:16	0.00032	0.00013
Strontium [mg/L]	21-Jun-11	15:16	0.178	0.0313
Titanium [mg/L]	21-Jun-11	15:16	0.0008	0.0005
Thallium [mg/L]	21-Jun-11	15:16	0.00029	0.00038
Uranium [mg/L]	21-Jun-11	15:16	0.00546	0.00239
Vanadium [mg/L]	21-Jun-11	15:16	0.00170	0.00005
Tungsten [mg/L]	21-Jun-11	15:16	0.00021	0.00009
Yttrium [mg/L]	21-Jun-11	15:16	0.0436	0.0351
Zinc [mg/L]	21-Jun-11	15:16	0.125	0.048

Dianne Griffin
Project Specialist

SGS Canada Inc.
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SFE 3:1

Project : CALR-12074-002

October-31-12

Environmental Met
Attn : Barb Bowman

Date Rec. : 02 October 2012
LR Report: **CA11053-OCT12**
Reference: Hum Cell Shutdown

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Desulphidized
Sample weight [g]	15-Oct-12	10:31	1000
Volume D.I. Water [mL]	15-Oct-12	10:31	3000
Initial pH [units]	15-Oct-12	10:31	6.01
Final pH [units]	15-Oct-12	10:31	6.49
pH [units]	16-Oct-12	10:17	6.78
Alkalinity [mg/L as CaCO3]	16-Oct-12	10:17	3
Acidity [mg/L as CaCO3]	16-Oct-12	10:17	< 2
Conductivity [µS/cm]	16-Oct-12	10:17	19
Sulphate [mg/L]	17-Oct-12	15:52	0.8
Mercury [mg/L]	16-Oct-12	11:36	< 0.0001
Silver [mg/L]	18-Oct-12	07:43	< 0.00001
Aluminum [mg/L]	15-Oct-12	10:31	0.05
Arsenic [mg/L]	18-Oct-12	07:43	0.0020
Barium [mg/L]	18-Oct-12	07:43	0.0240
Beryllium [mg/L]	18-Oct-12	07:43	< 0.00002
Boron [mg/L]	18-Oct-12	07:43	0.105
Bismuth [mg/L]	18-Oct-12	07:43	< 0.00001
Calcium [mg/L]	15-Oct-12	10:31	0.89
Cadmium [mg/L]	18-Oct-12	07:43	< 0.000003
Cobalt [mg/L]	18-Oct-12	07:43	0.000041
Chromium [mg/L]	18-Oct-12	07:43	< 0.0005
Copper [mg/L]	18-Oct-12	07:43	0.0041
Iron [mg/L]	15-Oct-12	10:31	0.019
Potassium [mg/L]	15-Oct-12	10:31	1.41
Lithium [mg/L]	18-Oct-12	07:43	< 0.001
Magnesium [mg/L]	15-Oct-12	10:31	0.192
Manganese [mg/L]	18-Oct-12	07:43	0.00011
Molybdenum [mg/L]	18-Oct-12	07:43	0.00240
Sodium [mg/L]	15-Oct-12	10:32	1.02

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Project : CALR-12074-002

LR Report : **CA11053-OCT12**

SGS Canada Inc.
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Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Desulphidized
Nickel [mg/L]	18-Oct-12	07:43	0.0001
Lead [mg/L]	18-Oct-12	07:43	0.00021
Antimony [mg/L]	18-Oct-12	07:43	0.0008
Selenium [mg/L]	18-Oct-12	07:43	< 0.001
Silicon [mg/L]	15-Oct-12	10:32	5.54
Tin [mg/L]	18-Oct-12	07:43	0.00014
Strontium [mg/L]	15-Oct-12	10:32	0.0084
Titanium [mg/L]	18-Oct-12	07:43	0.0014
Thallium [mg/L]	18-Oct-12	07:43	< 0.00002
Uranium [mg/L]	18-Oct-12	07:43	0.000004
Vanadium [mg/L]	18-Oct-12	07:43	0.00069
Tungsten [mg/L]	18-Oct-12	07:43	0.00048
Yttrium [mg/L]	18-Oct-12	07:43	0.000012
Zinc [mg/L]	15-Oct-12	10:32	< 0.002

Dianne Griffin
Project Specialist

OnLine LIMS

SGS Canada Inc.
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Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SFE 3:1

Project : CALR-12074-002

June-06-13

Environmental Met
Attn : Barb Bowman

Date Rec. : 26 April 2013
LR Report: **CA15390-APR13**
Reference: Hum Cell Shutdown

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated
Sample Date & Time			Date:N/A
Sample weight [g]	17-May-13	13:34	1000
Volume D.I. Water [mL]	17-May-13	13:34	3000
Initial pH [units]	17-May-13	13:34	5.96
Final pH [units]	17-May-13	13:34	5.95
pH [no unit]	05-Jun-13	10:43	6.54
Alkalinity [mg/L as CaCO3]	05-Jun-13	10:43	2
Acidity [mg/L as CaCO3]	05-Jun-13	10:43	< 2
Conductivity [µS/cm]	05-Jun-13	10:43	24
Sulphate [mg/L]	22-May-13	15:00	2.7
Mercury [mg/L]	23-May-13	08:09	< 0.00001
Silver [mg/L]	23-May-13	09:34	0.00001
Aluminum [mg/L]	23-May-13	08:42	0.02
Arsenic [mg/L]	23-May-13	09:34	< 0.0002
Barium [mg/L]	23-May-13	09:34	0.161
Beryllium [mg/L]	23-May-13	09:34	< 0.00002
Boron [mg/L]	23-May-13	09:34	0.0436
Bismuth [mg/L]	23-May-13	09:34	< 0.00001
Calcium [mg/L]	23-May-13	08:42	1.20
Cadmium [mg/L]	23-May-13	09:34	0.000028
Cobalt [mg/L]	23-May-13	09:34	0.000633
Chromium [mg/L]	23-May-13	09:34	< 0.0005
Copper [mg/L]	23-May-13	09:34	0.0672
Iron [mg/L]	23-May-13	08:42	< 0.003
Potassium [mg/L]	23-May-13	08:42	1.93
Lithium [mg/L]	23-May-13	09:34	0.001
Magnesium [mg/L]	23-May-13	08:42	0.108
Manganese [mg/L]	23-May-13	09:34	0.00774
Molybdenum [mg/L]	23-May-13	09:34	0.00236

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SFE 3:1

Project : CALR-12074-002

LR Report : **CA15390-APR13**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated
Sodium [mg/L]	23-May-13	08:42	0.82
Nickel [mg/L]	23-May-13	09:34	0.0014
Lead [mg/L]	23-May-13	09:34	0.00013
Antimony [mg/L]	23-May-13	09:34	0.0004
Selenium [mg/L]	23-May-13	09:34	< 0.001
Silicon [mg/L]	23-May-13	08:42	2.53
Tin [mg/L]	23-May-13	09:34	0.00044
Strontium [mg/L]	23-May-13	08:42	0.0139
Titanium [mg/L]	23-May-13	09:34	< 0.0001
Thallium [mg/L]	23-May-13	09:34	< 0.00002
Uranium [mg/L]	23-May-13	09:34	0.000001
Vanadium [mg/L]	23-May-13	09:34	0.00007
Tungsten [mg/L]	23-May-13	09:34	0.00009
Yttrium [mg/L]	23-May-13	09:34	0.000022
Zinc [mg/L]	23-May-13	08:43	0.006

Patti Stark
Project Specialist Environmental Services, Analytical

OnLine LIMS

Modified ABA (Price 1997)

Project : CALR-12074-002

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Wednesday, June 29, 2011

Environmental Met
Attn : Barb Bowman

Date Rec. : 16 June 2011
LR Report: **CA11230-JUN11**
Reference: Hum Cell Shutdown

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls	6: Whole Tls
Sample Date & Time				
Paste pH [units]	29-Jun-11	08:10	4.05	5.10
Fizz Rate [---]	29-Jun-11	08:10	1	1
Sample weight [g]	29-Jun-11	08:10	1.98	2.01
HCl added [mL]	29-Jun-11	08:10	20.00	20.00
HCl [Normality]	29-Jun-11	08:10	0.10	0.10
NaOH [Normality]	29-Jun-11	08:10	0.10	0.10
NaOH to [pH=8.3 mL]	29-Jun-11	08:10	19.65	18.78
Final pH [units]	29-Jun-11	08:10	1.18	1.21
NP [t CaCO3/1000 t]	29-Jun-11	08:10	0.90	3.00
AP [t CaCO3/1000 t]	29-Jun-11	08:10	517	113
Net NP [t CaCO3/1000 t]	29-Jun-11	08:10	-516	-110
NP/AP [ratio]	29-Jun-11	08:10	0.002	0.03
Sulphur (total) [%]	27-Jun-11	15:23	16.7	3.67
Acid Leachable SO4-S [%]	28-Jun-11	07:36	0.18	0.06
Sulphide [%]	28-Jun-11	07:36	16.5	3.60
Carbon (total) [%]	28-Jun-11	12:37	0.041	0.026
Carbonate [%]	28-Jun-11	07:39	0.015	0.012

Modified ABA (Price 1997)

Project : CALR-12074-002

LR Report : **CA11230-JUN11**

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

*NP (Neutralization Potential)

$$= \frac{50 \times (N \text{ of HCL} \times \text{Total HCL added} - N \text{ NaOH} \times \text{NaOH added})}{\text{Weight of Sample}}$$

*AP (Acid Potential) = % Sulphide Sulphur x 31.25
*Net NP (Net Neutralization Potential) = NP-AP
NP/AP Ratio = NP/AP
*Results expressed as tonnes CaCO3 equivalent/1000 tonnes of material
Samples with a % Sulphide value of <0.01 will be calculated using a 0.01 value.

Sulphur analysis performed following BC ARD Guidelines (Price 1997)

Dianne Griffin
Project Specialist

OnLine LIMS

Modified ABA (Price 1997)

Project : CALR-12074-002

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

October-31-12

Environmental Met
Attn : Barb Bowman

Date Rec. : 02 October 2012
LR Report: **CA11054-OCT12**
Reference: Hum Cell Shutdown

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Desulphidized
Paste pH [units]	19-Oct-12	15:24	7.79
Fizz Rate [---]	19-Oct-12	15:24	1
Sample weight [g]	19-Oct-12	15:24	2.01
HCl added [mL]	19-Oct-12	15:24	20.00
HCl [Normality]	19-Oct-12	15:24	0.10
NaOH [Normality]	19-Oct-12	15:24	0.10
NaOH to [pH=8.3 mL]	19-Oct-12	15:24	18.89
Final pH [units]	19-Oct-12	15:24	0.99
NP [t CaCO3/1000 t]	19-Oct-12	15:24	2.8
AP [t CaCO3/1000 t]	---	---	0.44
Net NP [t CaCO3/1000 t]	---	---	2.36
NP/AP [ratio]	---	---	6.40
Sulphur (total) [%]	18-Oct-12	09:16	0.044
Acid Leachable SO4-S [%]	---	---	0.03
Sulphide [%]	18-Oct-12	09:16	0.01
Carbon (total) [%]	17-Oct-12	12:06	0.016
Carbonate [%]	17-Oct-12	12:06	0.023

Modified ABA (Price 1997)

Project : CALR-12074-002

LR Report : **CA11054-OCT12**

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

*NP (Neutralization Potential)

$$= \frac{50 \times (N \text{ of HCL} \times \text{Total HCL added} - N \text{ NaOH} \times \text{NaOH added})}{\text{Weight of Sample}}$$

*AP (Acid Potential) = % Sulphide Sulphur x 31.25
*Net NP (Net Neutralization Potential) = NP-AP
NP/AP Ratio = NP/AP
*Results expressed as tonnes CaCO3 equivalent/1000 tonnes of material
Samples with a % Sulphide value of <0.01 will be calculated using a 0.01 value.

Sulphur analysis performed following BC ARD Guidelines (Price 1997)

Dianne Griffin
Project Specialist

OnLine LIMS

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Modified ABA (Price 1997)

Project : CALR-12074-002

June-06-13

Environmental Met
Attn : Barb Bowman

Date Rec. : 26 April 2013
LR Report: **CA15391-APR13**
Reference: Hum Cell Shut Down

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated
Sample Date & Time					Date:N/A
Paste pH [units]	30-May-13	08:44	05-Jun-13	15:56	8.57
Fizz Rate [---]	30-May-13	08:44	05-Jun-13	15:56	1
Sample weight [g]	30-May-13	08:44	05-Jun-13	15:56	2.05
HCl added [mL]	30-May-13	08:44	05-Jun-13	15:56	20.00
HCl [Normality]	30-May-13	08:44	05-Jun-13	15:56	0.10
NaOH [Normality]	30-May-13	08:44	05-Jun-13	15:56	0.10
NaOH to [pH=8.3 mL]	30-May-13	08:44	05-Jun-13	15:56	18.90
Final pH [units]	30-May-13	08:44	05-Jun-13	15:56	1.08
NP [t CaCO3/1000 t]	30-May-13	08:44	05-Jun-13	15:56	2.7
AP [t CaCO3/1000 t]	---	---	---	---	3.12
Net NP [t CaCO3/1000 t]	---	---	---	---	-0.42
NP/AP [ratio]	---	---	---	---	0.86
Sulphur (total) [%]	29-May-13	15:24	30-May-13	16:39	0.140
Acid Leachable SO4-S [%]	---	---	---	---	0.04
Sulphide [%]	30-May-13	14:21	30-May-13	16:38	0.10
Carbon (total) [%]	29-May-13	15:24	30-May-13	16:39	0.023
Carbonate [%]	29-May-13	15:22	30-May-13	16:37	0.020

Modified ABA (Price 1997)

Project : CALR-12074-002

LR Report : **CA15391-APR13**

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

*NP (Neutralization Potential)

$$= \frac{50 \times (N \text{ of HCL} \times \text{Total HCL added} - N \text{ NaOH} \times \text{NaOH added})}{\text{Weight of Sample}}$$

*AP (Acid Potential) = % Sulphide Sulphur x 31.25
*Net NP (Net Neutralization Potential) = NP-AP
NP/AP Ratio = NP/AP
*Results expressed as tonnes CaCO3 equivalent/1000 tonnes of material
Samples with a % Sulphide value of <0.01 will be calculated using a 0.01 value.

Sulphur analysis performed following BC ARD Guidelines (Price 1997)

Patti Stark
Project Specialist Environmental Services, Analytical

OnLine LIMS

NAG Test

Project : CALR-12074-002

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Wednesday, June 29, 2011

Environmental Met
Attn : Barb Bowman

Date Rec. : 16 June 2011
LR Report: **CA11231-JUN11**
Reference: Hum Cell Shutdown

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls	6: Whole Tls
Sample Date & Time				
Sample weight [g]	28-Jun-11	16:05	1.52	1.49
Vol H2O2 [mL]	28-Jun-11	16:05	150	150
Final pH [units]	28-Jun-11	16:05	1.91	2.25
NaOH [Normality]	28-Jun-11	16:05	0.50	0.10
Vol NaOH to PH 4.5 [mL]	28-Jun-11	16:05	6.10	13.30
Vol NaOH to PH 7.0 [mL]	28-Jun-11	16:05	8.70	19.50
NAG (pH 4.5) [kg H2SO4/tonne]	28-Jun-11	16:05	98	44
NAG (pH 7.0) [kg H2SO4/tonne]	28-Jun-11	16:05	140	64

NAG = (49 x Vol. of base x N of base)/sample weight
kg H2SO4/tonne

Dianne Griffin
Project Specialist

OnLine LIMS

NAG Test

Project : CALR-12074-002

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

October-19-12

Environmental Met
Attn : Barb Bowman

Date Rec. : 02 October 2012
LR Report: **CA11055-OCT12**
Reference: Humidity Cell Shut-down

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Desulphidized
Sample weight [g]	19-Oct-12	13:42	1.51
Volume H2O2 [mL]	19-Oct-12	13:42	150
Final pH [units]	19-Oct-12	13:42	5.34
NaOH [Normality]	19-Oct-12	13:42	0.10
Volume NaOH to pH 4.5 [mL]	19-Oct-12	13:42	0.00
Volume NaOH to pH 7.0 [mL]	19-Oct-12	13:42	1.51
NAG (pH 4.5) [kg H2SO4/tonne]	19-Oct-12	13:42	0
NAG (pH 7.0) [kg H2SO4/tonne]	19-Oct-12	13:42	4.9

NAG = (49 x Vol. of base x N of base)/sample weight
kg H2SO4/tonne

Dianne Griffin
Project Specialist

OnLine LIMS

NAG Test

Project : CALR-12074-002

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

June-07-13

Environmental Met
Attn : Barb Bowman

Date Rec. : 26 April 2013
LR Report: **CA15392-APR13**
Reference: Hum Cell Shut Down

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated
Sample Date & Time					Date:N/A
Sample weight [g]	31-May-13	09:04	07-Jun-13	10:10	1.57
Vol H2O2 [mL]	31-May-13	09:04	07-Jun-13	10:10	150
Final pH [units]	31-May-13	09:04	07-Jun-13	10:10	4.11
NaOH [Normality]	31-May-13	09:04	07-Jun-13	10:10	0.10
Vol NaOH to PH 4.5 [mL]	31-May-13	09:04	07-Jun-13	10:10	0.13
Vol NaOH to PH 7.0 [mL]	31-May-13	09:04	07-Jun-13	10:10	0.47
NAG (pH 4.5) [kg H2SO4/tonne]	31-May-13	09:04	07-Jun-13	10:10	0.4
NAG (pH 7.0) [kg H2SO4/tonne]	31-May-13	09:04	07-Jun-13	10:10	1.5

NAG = (49 x Vol. of base x N of base)/sample weight
kg H2SO4/tonne

Patti Stark
Project Specialist Environmental Services, Analytical

OnLine LIMS

SGS Lakefield Research Limited
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Project : CALR-12074-002

Environmental Met
Attn : Barb Bowman

Friday, May 15, 2009

Date Rec. : 15 May 2009
LR Report: **CA11270-MAY09**
Reference: 12074-002-08

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Sample ID	Sample Date & Time	Slump mm
3: Analysis Approval Date		15-May-09
4: Analysis Approval Time		14:48
5: 1st Cl Scav Tls	Date:N/A	65

Dianne Griffin
Project Specialist

OnLine LIMS

Appendix C – Semi-Quantitative XRD Test Report

Semi-Quantitative X-Ray Diffraction

Report Prepared for: *Resolution Copper*

Project Number/ LIMS No. *12074-002/ MI4500-JUN09*

Reporting Date: *June 10, 2009*

Instrument: BRUKER AXS D8 Advance Diffractometer

Test Conditions: Co radiation, 40 kV, 35 mA
Regular Scanning: Step: 0.02°, Step time:0.2s, 2θ range: 3-70°

Interpretations: PDF2/PDF4 (ICDD) powder diffraction database. DiffracPlus Eva software.

Detection Limit: 0.5-2%. Strongly dependent on crystallinity.

Contents:

Jennifer LaBelle-Brown, A.Sc.T
Technologist, XRD

Stephanie Downing, M. Sc.
Senior Mineralogist

Method Summary

Mineral Identification and Interpretation:

Mineral identification and interpretation involve matching the diffraction pattern of an unknown material to patterns of single-phase reference materials. The reference patterns are compiled by the JCPDS-ICDD database and released on software as Powder Diffraction File (PDF).

Interpretations do not reflect the presence of non-crystalline and/or amorphous compounds. Mineral proportions are based on relative peak heights and may be strongly influenced by crystallinity, structural group or preferred orientations. Interpretations and relative proportions should be accompanied by supporting petrographic and geochemical data (WRA, ICP-OES).

Semi-Quantitative Analysis:

The Semi-Quantitative analysis (RIR method) is performed based on each mineral's relative peak heights and of their respective I/Icor values, which are available from the PDF database. Mineral abundances for the bulk sample (in weight %) are generated by Bruker-EVA Software. These data are reconciled with a bulk chemistry (e.g. whole rock analysis including SiO_2, Al_2O_3, Na_2O, K_2O, CaO, MgO, Fe_2O_3, Cr_2O_3, MnO, TiO_2, P_2O_5, V_2O_5 or other chemical data). A chemical balance table shows the difference between the assay results and elemental concentrations determined by XRD.

Summary of Semi-Quantitative X-ray Diffraction Results

Crystalline Mineral Assemblage (relative proportions based on peak height)

Sample	Major (>30% Wt)	Moderate (10% -30% Wt)	Minor (2% -10% Wt)	Trace (<2% Wt)
(1) Rougher Tls	quartz	mica	kaolinite, potassium feldspar	*rutile, *pyrite
(2) 1st Cl Scav Tls	pyrite, quartz	mica	kaolinite, potassium feldspar	*calcite, *rutile
(3) Whole Tls	quartz	mica	pyrite, kaolinite, potassium feldspar	*rutile
(4) Cyclone U/F- Untreated	quartz	mica	kaolinite, potassium feldspar	*rutile, *pyrite

** tentative identification due to low concentrations, diffraction line overlap or poor crystallinity*

Mineral	Composition
Calcite	$CaCO_3$
Kaolinite	$Al_2Si_2O_5(OH)_4$
Mica	$K(Mg,Fe)Al_2Si_3AlO_{10}(OH)_2$
Potassium Feldspar	$KAlSi_3O_8$
Pyrite	FeS_2
Quartz	SiO_2
Rutile	TiO_2

Semi-Quantitative X-ray Diffraction Results

Mineral	(1) Rougher Tls (wt %)	(2) 1st Cl Scav Tls (wt %)	(3) Whole Tls (wt %)	(4) Cyclone U/F- Untreated (wt %)
Quartz	66.5	30.2	59.2	74.9
Muscovite	19.3	22.0	23.8	15.2
Illite	3.3	2.9	2.0	2.8
Pyrite	0.6	34.0	8.5	0.4
Kaolinite	5.8	5.1	3.6	3.3
Orthoclase	3.6	3.1	2.2	2.4
Rutile	1.0	0.9	0.8	1.1
Calcite	-	1.9	-	-
TOTAL	100.1	100.1	100.1	100.1

Chemical Balance

(1) Rougher Tls

Name	Assay	SQD	Delta	Status
Oxygen	49.4	51.4	-1.99	Both
Silicon	36.9	37.9	-0.99	Both
Aluminum	6.19	6.09	0.10	Both
Potassium	2.67	2.54	0.13	Both
Iron	0.70	0.71	-0.01	Both
Titanium	0.61	0.59	0.01	Both
Magnesium	0.56	0.18	0.38	Both
Calcium	0.20	-	0.20	XRF
Phosphorus	0.09	-	0.09	XRF
Sodium	0.04	-	0.04	XRF
Chromium	0.02	-	0.02	XRF
Vanadium	0.02	-	0.02	XRF
Hydrogen	-	0.20	0.20	SQD
Sulfur	-	0.34	0.34	SQD

(2) 1st Cl Scav Tls

Name	Assay	SQD	Delta	Status
Oxygen	36.9	33.5	3.46	Both
Silicon	20.2	21.2	-1.00	Both
Iron	16.1	16.2	-0.10	Both
Aluminum	6.19	6.37	-0.18	Both
Potassium	2.44	2.73	-0.29	Both
Calcium	0.58	0.76	-0.18	Both
Magnesium	0.47	0.16	0.31	Both
Titanium	0.43	0.52	-0.09	Both
Phosphorus	0.11	-	0.11	XRF
Sodium	0.04	-	0.04	XRF
Chromium	0.04	-	0.04	XRF
Vanadium	0.02	-	0.02	XRF
Hydrogen	-	0.20	0.20	SQD
Carbon	-	0.23	0.23	SQD
Sulfur	-	18.20	18.20	SQD

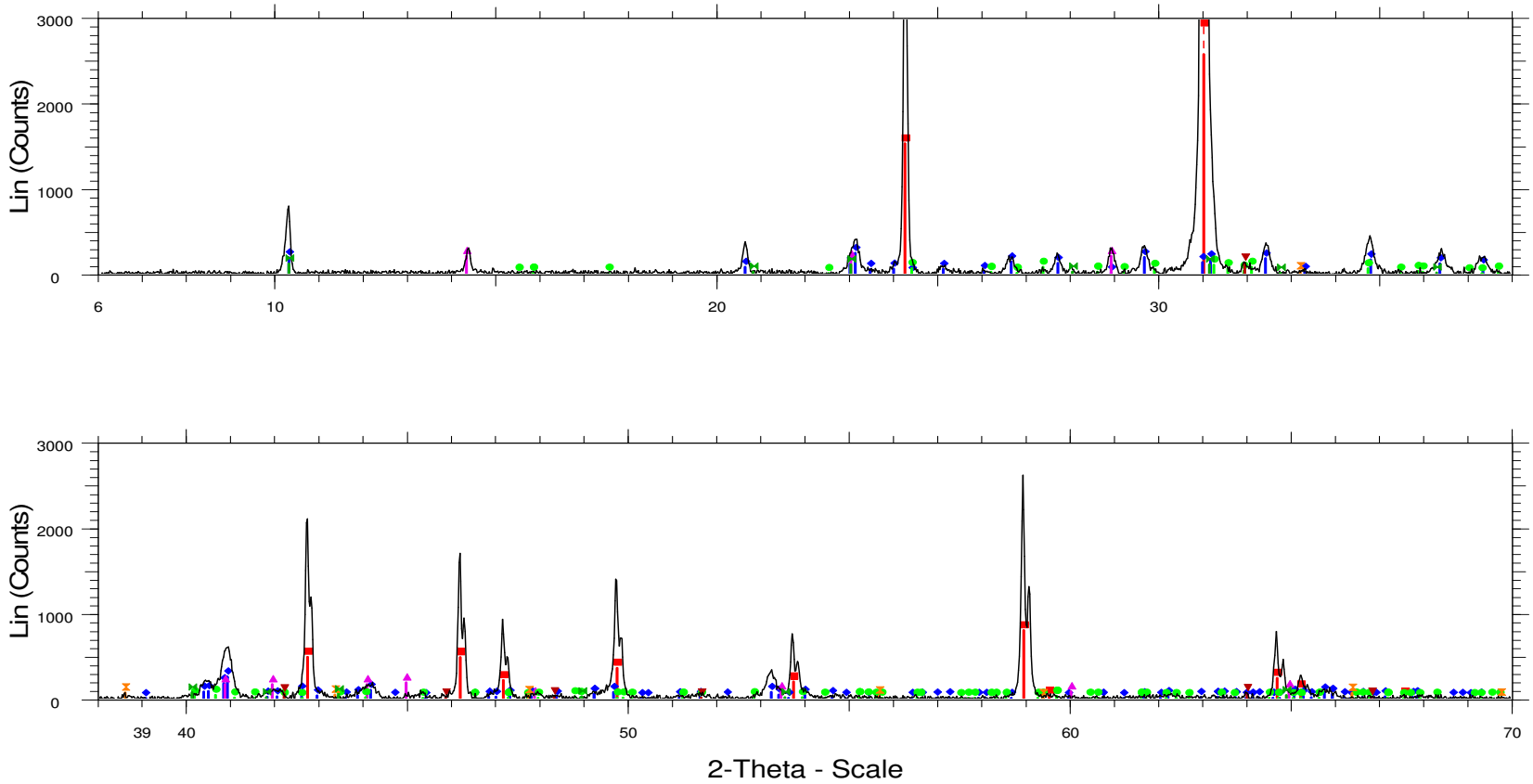
(3) Whole Tls

Name	Assay	SQD	Delta	Status
Oxygen	47.1	47.2	-0.11	Both
Silicon	33.6	34.4	-0.83	Both
Aluminum	6.25	6.16	0.09	Both
Iron	4.11	4.20	-0.10	Both
Potassium	2.61	2.73	-0.11	Both
Titanium	0.56	0.50	0.07	Both
Magnesium	0.54	0.11	0.42	Both
Calcium	0.28	-	0.28	XRF
Phosphorus	0.09	-	0.09	XRF
Sodium	0.03	-	0.03	XRF
Chromium	0.03	-	0.03	XRF
Vanadium	0.01	-	0.01	XRF
Hydrogen	-	0.19	-0.19	SQD
Sulfur	-	4.53	-4.53	SQD

(4) Cyclone U/F- Untreated

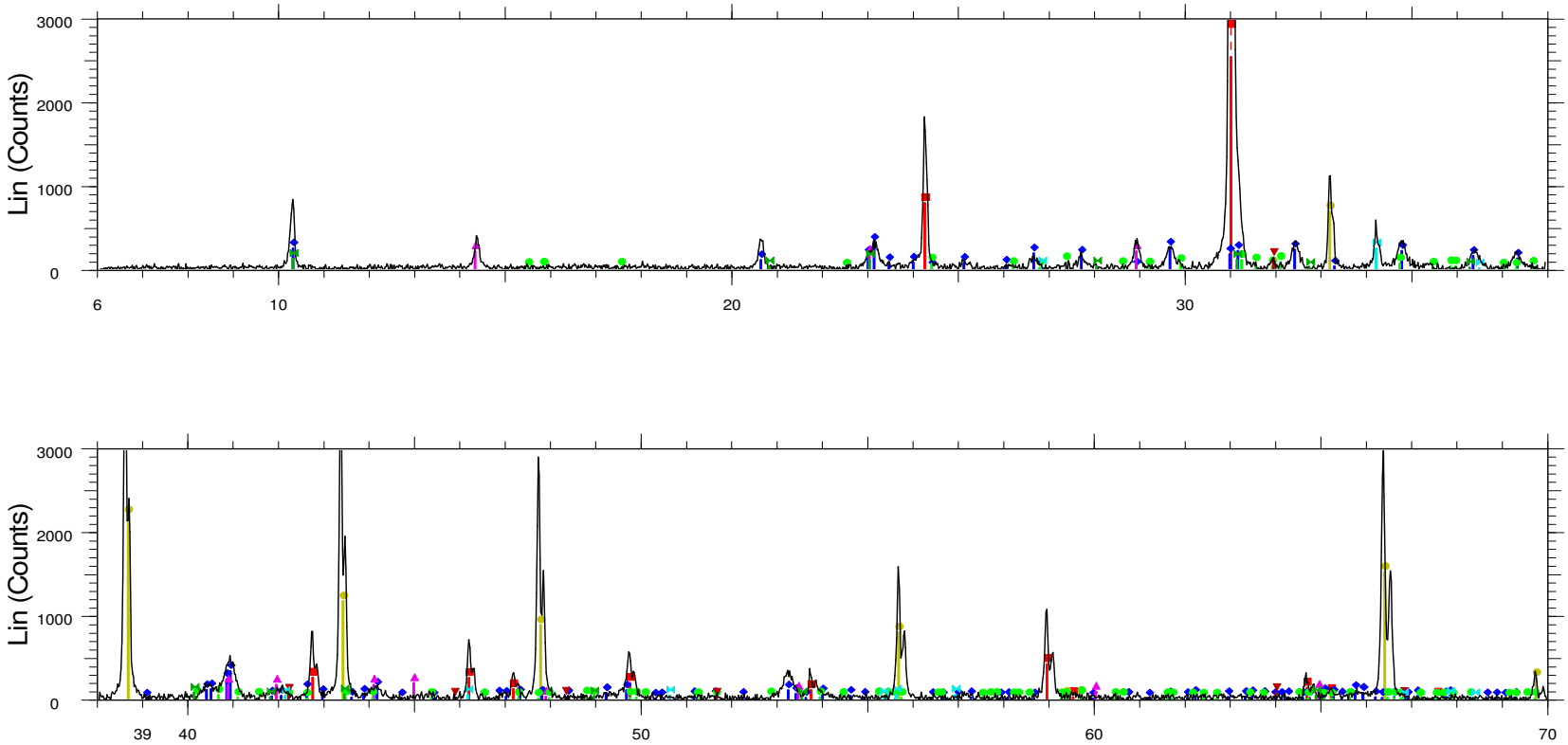
Name	Assay	SQD	Delta	Status
Oxygen	50.8	51.8	-0.94	Both
Silicon	40.0	40.0	0.02	Both
Aluminum	4.23	4.52	-0.28	Both
Potassium	1.91	1.95	-0.04	Both
Iron	0.65	0.56	0.10	Both
Titanium	0.61	0.67	-0.07	Both
Magnesium	0.39	0.16	0.23	Both
Calcium	0.14	-	0.14	XRF
Phosphorus	0.06	-	0.06	XRF
Sodium	0.03	-	0.03	XRF
Chromium	0.03	-	0.03	XRF
Vanadium	0.01	-	0.01	XRF
Hydrogen	-	0.14	0.14	SQD
Sulfur	-	0.23	0.23	SQD

Rougher Tls

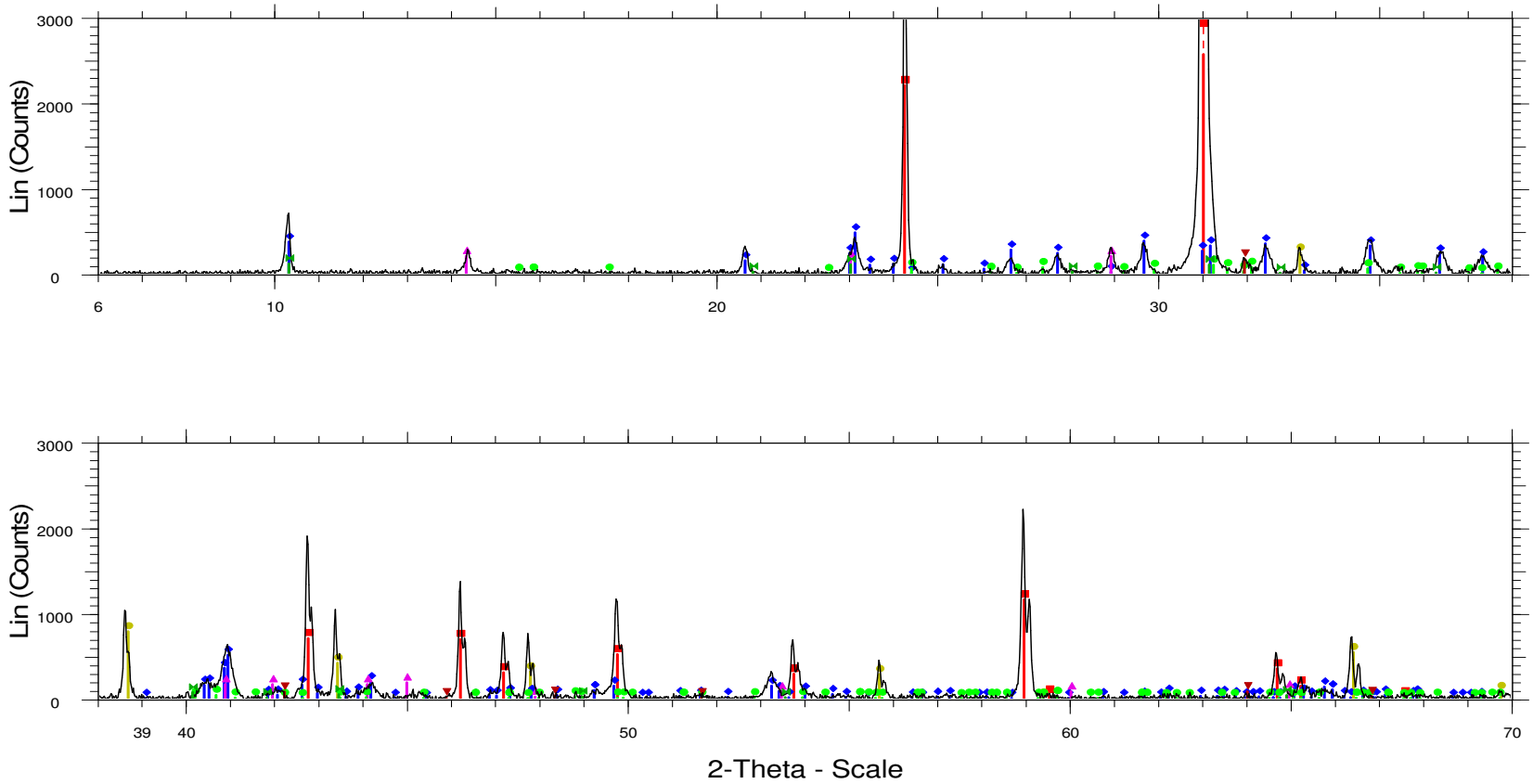


Rougher Tls - File: jun4500-1.raw
01-079-1910 (C) - Quartz - SiO2
01-084-1302 (C) - Muscovite - KAl3Si3O10(OH)2
00-006-0221 (D) - Kaolinite 1Md - Al2Si2O5(OH)4
01-086-0438 (C) - Orthoclase - K(AlSi3O8)
01-086-0147 (C) - Rutile - TiO2
01-071-2219 (C) - Pyrite - FeS2
00-009-0343 (D) - Illite, trioctahedral - K0.5(Al,Fe,Mg)3(Si,Al)4O10(OH)2

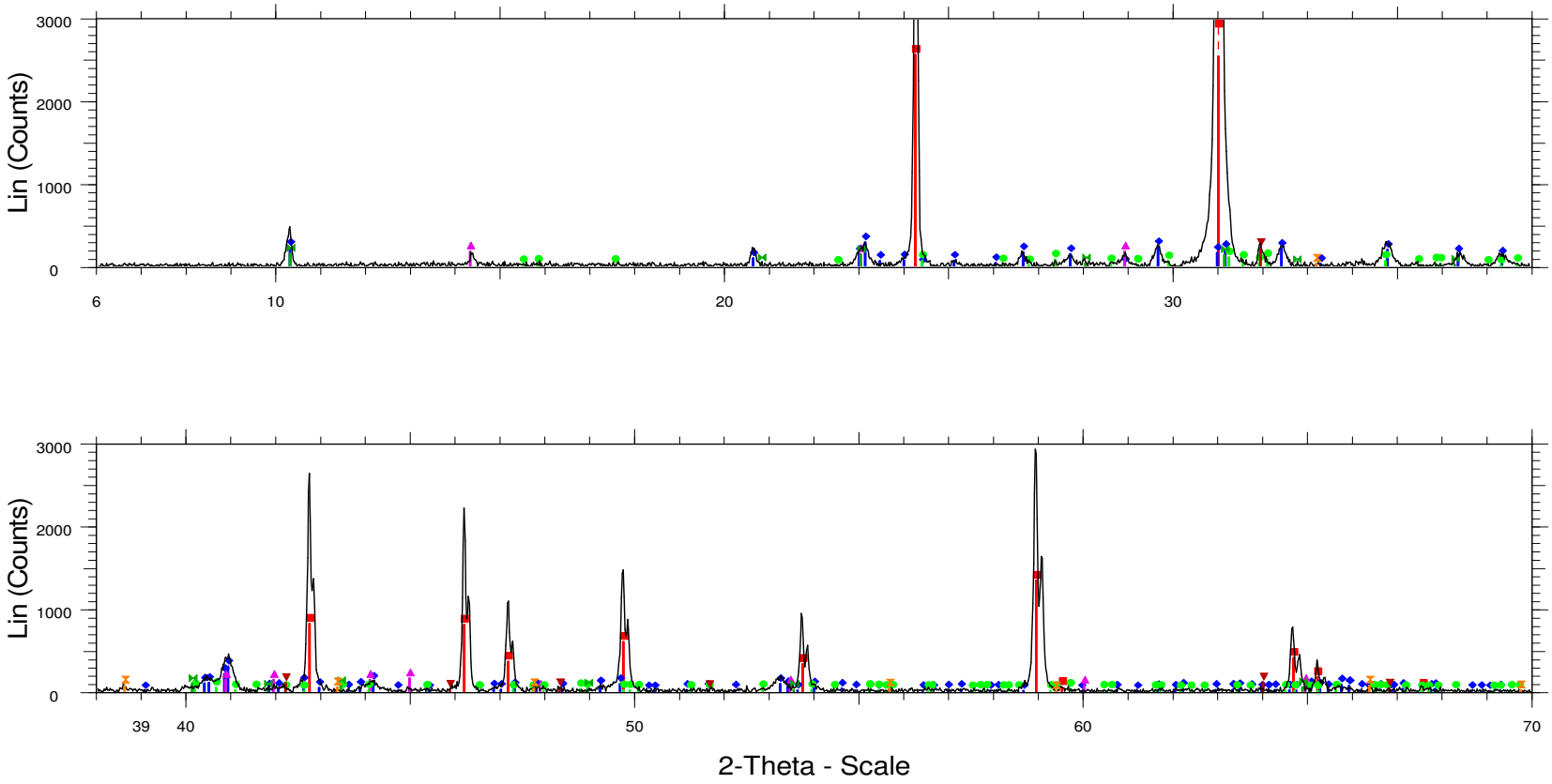
1st Cl Scav Tls



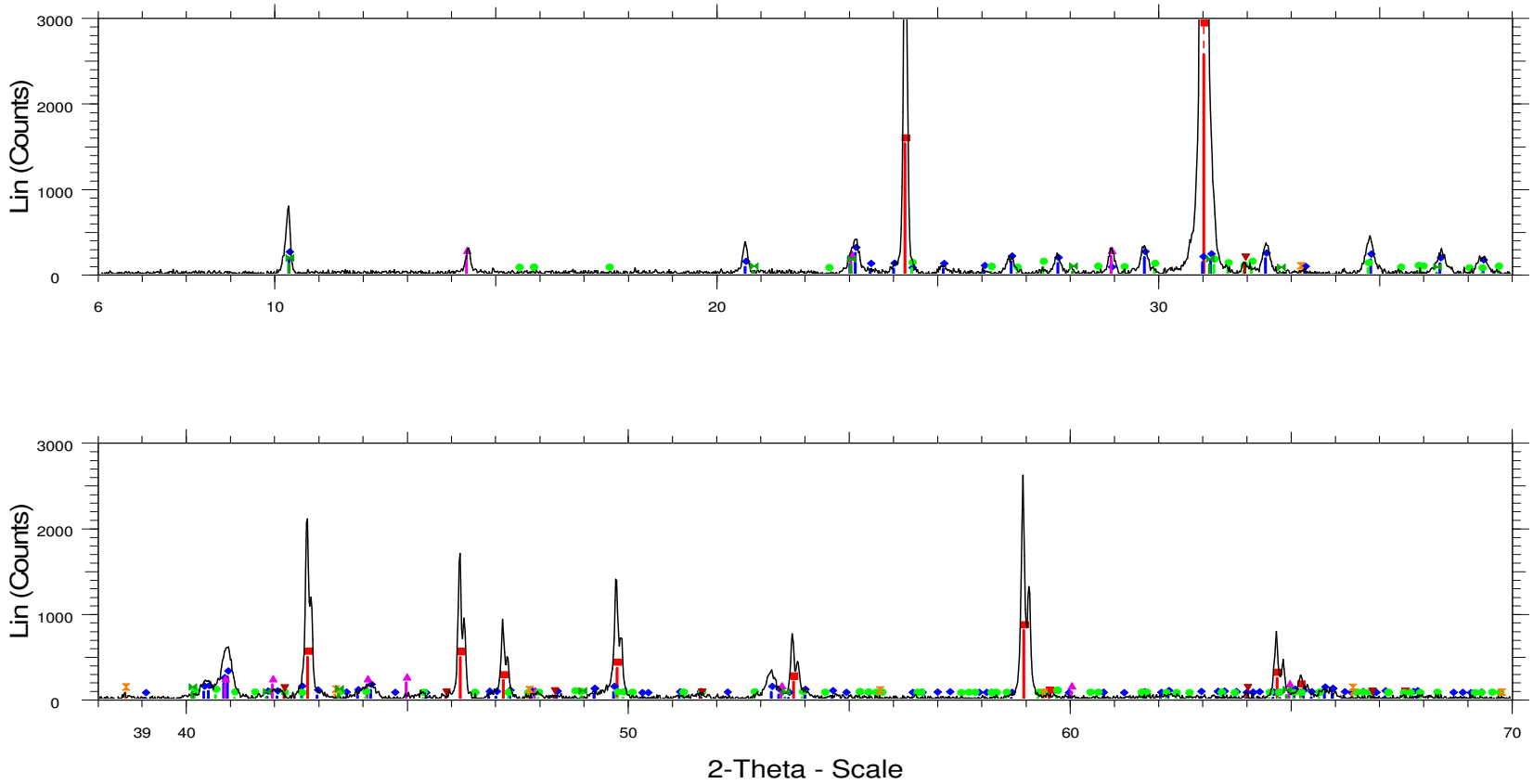
Whole Tls


Lin (Counts)
3000
2000
1000
0
6
10
20
30
Lin (Counts)
3000
2000
1000
0
39
40
50
60
70
2-Theta - Scale
Whole Tls - File: jun4500-3.raw
01-079-1910 (C) - Quartz - SiO2
00-042-1340 (*) - Pyrite - FeS2
01-084-1302 (C) - Muscovite - KAl3Si3O10(OH)2
00-006-0221 (D) - Kaolinite 1Md - Al2Si2O5(OH)4
01-086-0438 (C) - Orthoclase - K(AlSi3O8)
01-086-0147 (C) - Rutile - TiO2
00-009-0343 (D) - Illite, trioctahedral - K0.5(Al,Fe,Mg)3(Si,Al)4O10(OH)2

Cyclone U/F-Untreated

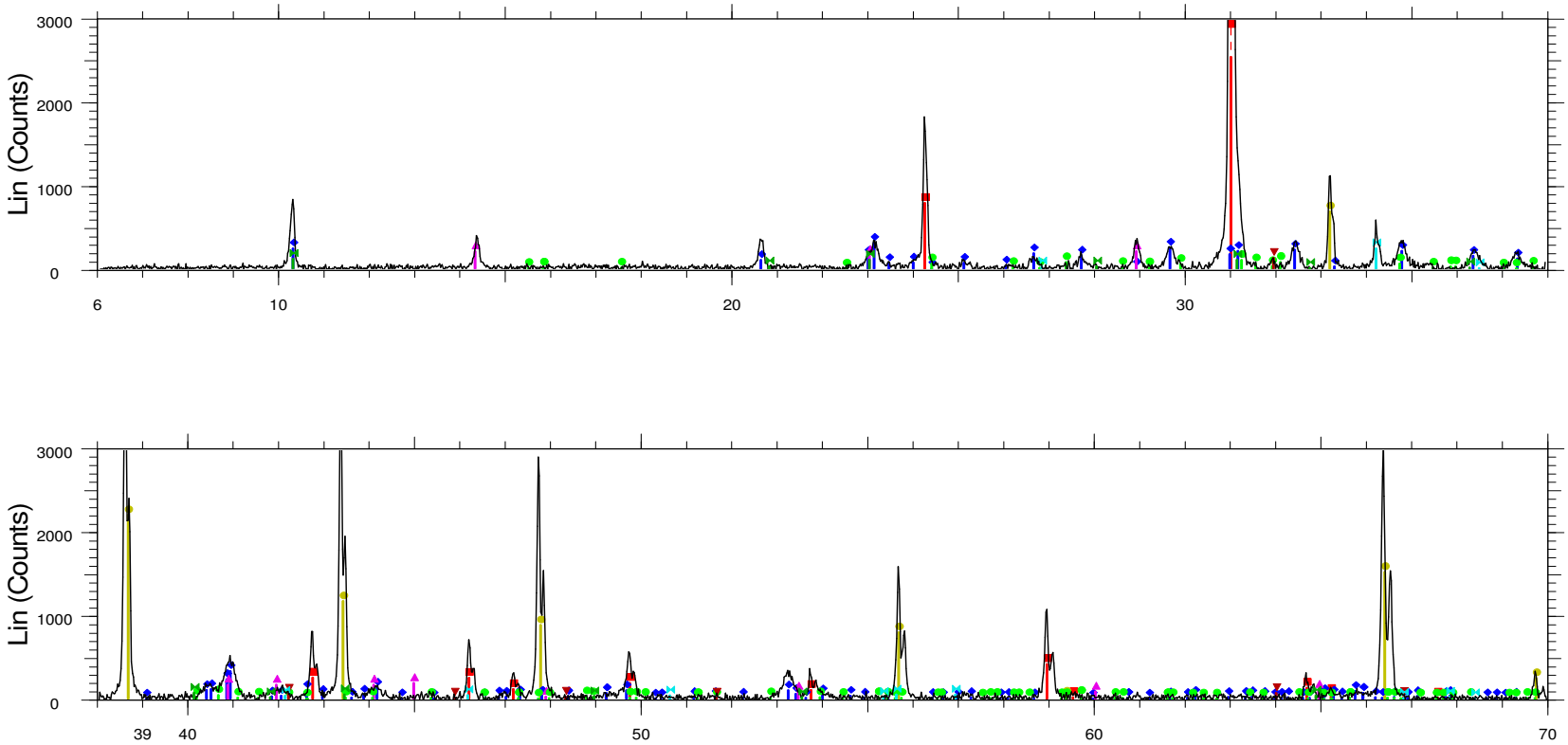


Rougher Tls

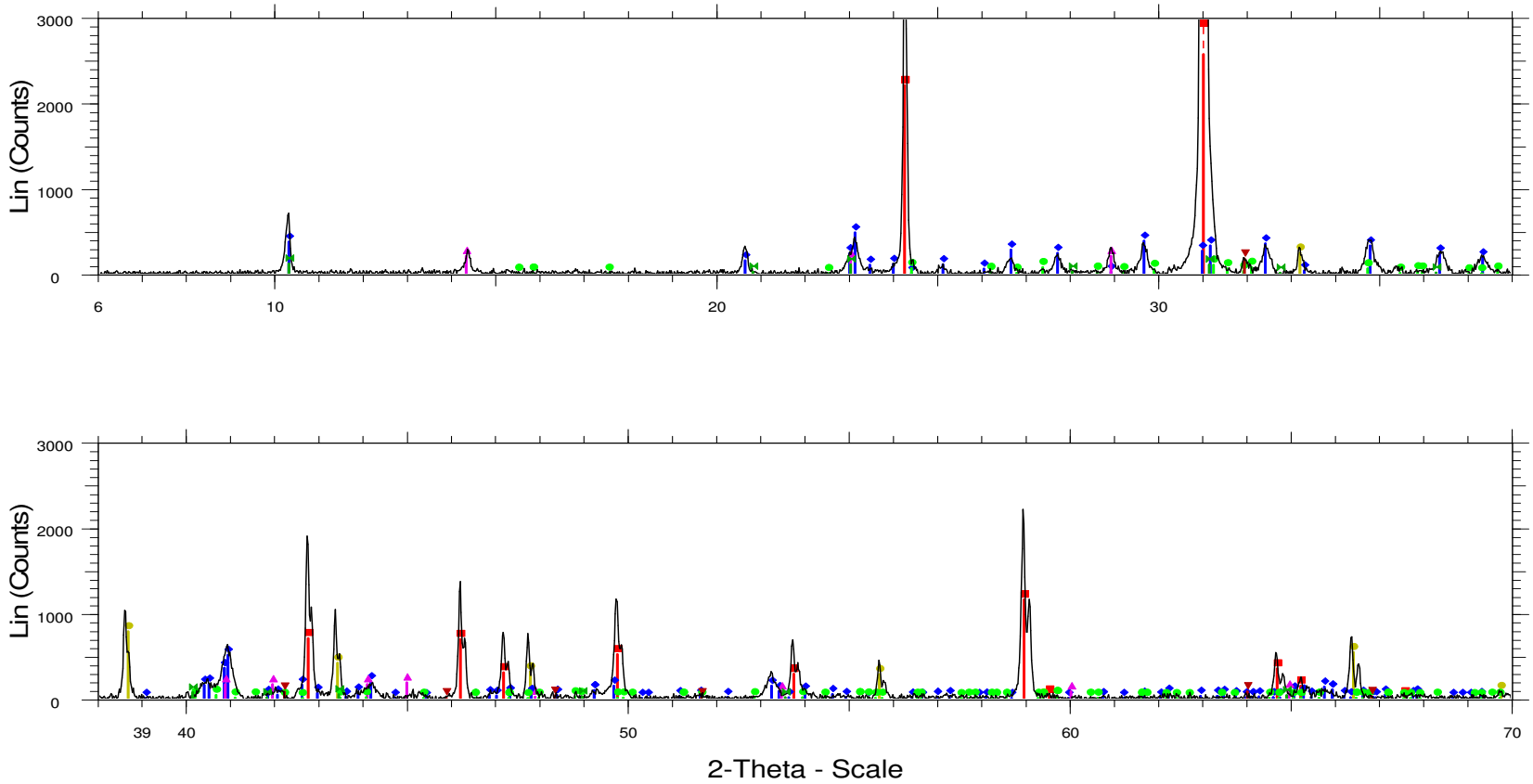


Rougher Tls - File: jun4500-1.raw
01-079-1910 (C) - Quartz - SiO2
01-084-1302 (C) - Muscovite - KAl3Si3O10(OH)2
00-006-0221 (D) - Kaolinite 1Md - Al2Si2O5(OH)4
01-086-0438 (C) - Orthoclase - K(AlSi3O8)
01-086-0147 (C) - Rutile - TiO2
01-071-2219 (C) - Pyrite - FeS2
00-009-0343 (D) - Illite, trioctahedral - K0.5(Al,Fe,Mg)3(Si,Al)4O10(OH)2

1st Cl Scav Tls

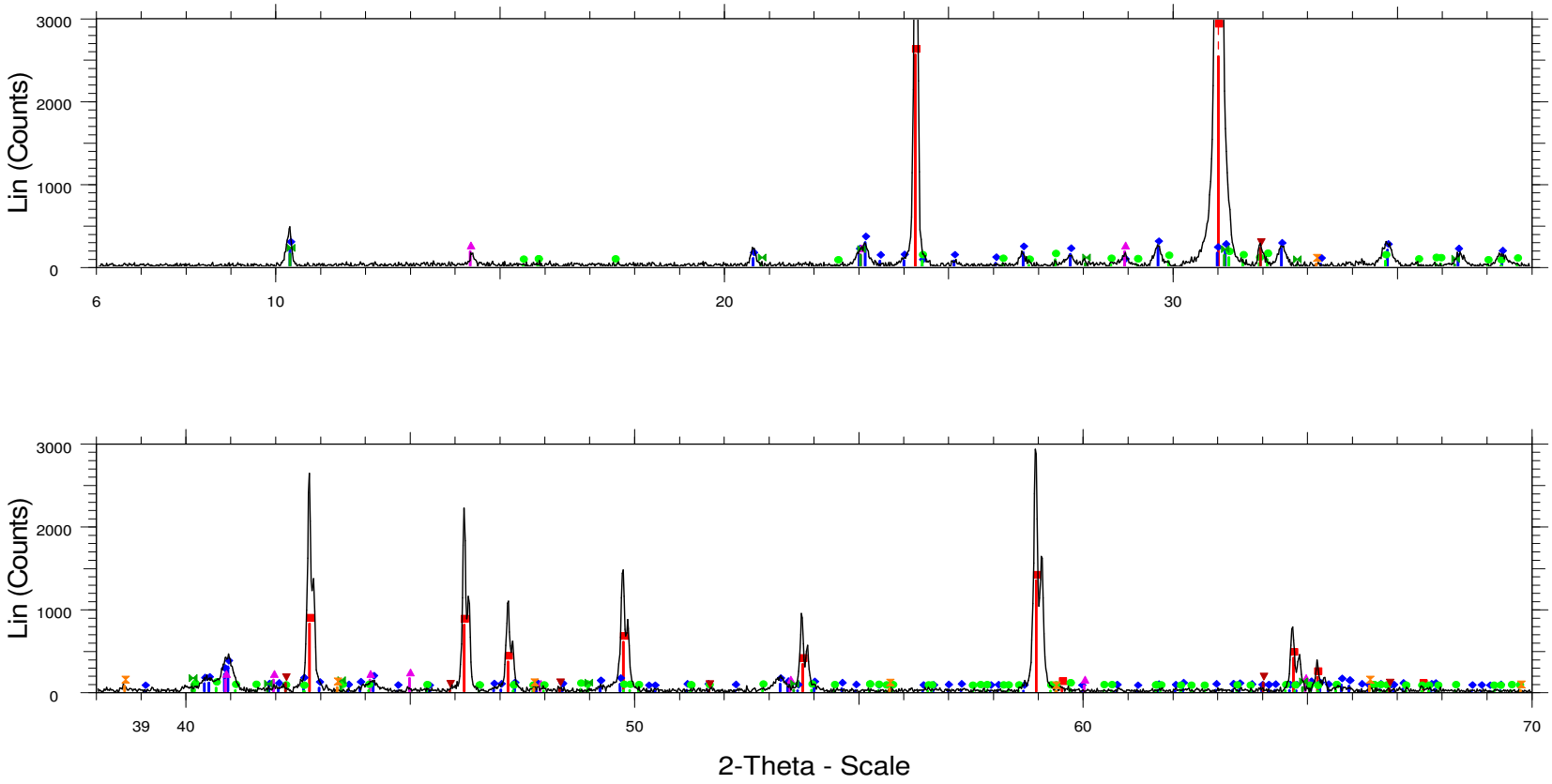


Whole Tls



Whole Tls - File: jun4500-3.raw
01-079-1910 (C) - Quartz - SiO2
00-042-1340 (*) - Pyrite - FeS2
01-084-1302 (C) - Muscovite - KAl3Si3O10(OH)2
00-006-0221 (D) - Kaolinite 1Md - Al2Si2O5(OH)4
01-086-0438 (C) - Orthoclase - K(AlSi3O8)
01-086-0147 (C) - Rutile - TiO2
00-009-0343 (D) - Illite, trioctahedral - K0.5(Al,Fe,Mg)3(Si,Al)4O10(OH)2

Cyclone U/F-Untreated



Appendix D – Humidity Cell Test Reports

Test Specimen

Sample	Weight (g)
1st Cl Scav Tls	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	0	1	2	3	4	5	6	7	8	9
LIMS		11105-JUN09	11106-JUN09	11107-JUN09	11143-JUN09	10009-JUL09	10027-JUL09	10046-JUL09	11076-JUL09	10008-AUG09	10040-AUG09
Hum Cell Leachate Vol	mLs	421	954	976	989	973	985	988	985	986	990
pH	units	7.05	6.88	6.79	6.98	6.30	6.43	5.84	5.60	5.41	5.38
Alkalinity	mg/L as $CaCO_3$	13	11	9	9	5	3	<2	<2	<2	<2
Acidity	mg/L as $CaCO_3$	<2	12	16	3	<2	3	4	4	5	11
Conductivity	µS/cm	198	308	333	442	331	284	272	286	279	308
SO_4	mg/L	80	130	140	200	150	130	120	130	120	140
Hg	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	---	---	---	---
Ag	mg/L	< 0.00001	< 0.00001	0.00002	< 0.00001	< 0.00001	< 0.00001	---	---	---	---
Al	mg/L	< 0.01	< 0.01	0.02	< 0.01	0.03	0.09	---	---	---	---
As	mg/L	0.0002	0.0008	0.0004	0.0003	0.0006	< 0.0002	---	---	---	---
Ba	mg/L	0.00695	0.00430	0.00321	0.00369	0.00330	0.00284	---	---	---	---
Be	mg/L	< 0.00002	< 0.00002	0.00004	0.00003	0.00003	0.00004	---	---	---	---
B	mg/L	0.0042	0.0039	0.0042	0.0061	0.0057	0.0050	---	---	---	---
Bi	mg/L	< 0.00001	< 0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001	---	---	---	---
Ca	mg/L	32.9	54.5	54.4	70.6	52.6	47.5	---	---	---	---
Cd	mg/L	0.000067	0.000059	0.000076	0.000075	0.000093	0.000629	---	---	---	---
Co	mg/L	0.0151	0.00774	0.00685	0.00734	0.00768	0.00678	---	---	---	---
Cr	mg/L	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	---	---	---	---
Cu	mg/L	0.0536	0.0564	0.364	0.301	0.597	0.909	---	---	---	---
Fe	mg/L	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	---	---	---	---
K	mg/L	2.13	4.56	5.25	6.05	4.43	3.84	---	---	---	---
Li	mg/L	< 0.001	0.002	0.002	0.002	0.001	0.001	---	---	---	---
Mg	mg/L	2.25	3.68	4.81	6.03	4.22	3.50	---	---	---	---
Mn	mg/L	0.313	0.232	0.208	0.255	0.204	0.163	---	---	---	---
Mo	mg/L	0.00066	0.00072	0.00069	0.00065	0.00021	0.00016	---	---	---	---
Na	mg/L	0.63	0.97	1.14	1.23	0.88	0.67	---	---	---	---
Ni	mg/L	0.0177	0.0106	0.0105	0.0118	0.0114	0.0106	---	---	---	---
Pb	mg/L	0.00003	< 0.00002	0.00002	< 0.00002	< 0.00002	0.00050	---	---	---	---
Sb	mg/L	0.0005	0.0003	0.0003	0.0003	< 0.0002	0.0002	---	---	---	---
Se	mg/L	< 0.001	0.002	< 0.001	< 0.001	< 0.001	0.002	---	---	---	---
Si	mg/L	0.11	0.25	0.27	0.36	0.36	0.34	---	---	---	---
Sn	mg/L	0.00370	0.00092	0.00031	0.00026	0.00016	0.00016	---	---	---	---
Sr	mg/L	0.0455	0.0826	0.0868	0.114	0.0877	0.0792	---	---	---	---
Ti	mg/L	0.0006	0.0005	< 0.0001	< 0.0001	< 0.0001	0.0006	---	---	---	---
Tl	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	---	---	---	---
U	mg/L	0.000059	0.000020	0.000040	0.000056	0.000033	0.000050	---	---	---	---
V	mg/L	< 0.00003	< 0.00003	< 0.00003	0.00005	0.00004	< 0.00003	---	---	---	---
W	mg/L	0.00009	< 0.00003	< 0.00003	< 0.00003	< 0.00003	0.00004	---	---	---	---
Y	mg/L	0.000005	0.000003	0.000026	0.000028	0.000053	0.000084	---	---	---	---
Zn	mg/L	0.010	0.010	0.013	0.011	0.015	0.041	---	---	---	---

Test Specimen

Sample	Weight (g
1st Cl Scav Tls	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	10	11	12	13	14	15	16	17	18	19	20	21
LIMS		10166-AUG09	10183-AUG09	10006-SEP09	10023-SEP09	10040-SEP09	10155-SEP09	11062-SEP09	10018-OCT09	11051-OCT09	11061-OCT09	11170-OCT09	10011-NOV09
Hum Cell Leachate Vol	mLs	989	984	997	983	996	992	987	988	994	995	993	988
pH	units	5.23	4.85	*4.79	4.75	4.55	4.47	4.56	4.37	4.60	4.27	4.19	4.16
Alkalinity	mg/L as $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Acidity	mg/L as $CaCO_3$	10	9	5	11	14	13	15	17	20	23	29	33
Conductivity	µS/cm	305	298	280	275	277	255	252	277	254	263	287	291
SO_4	mg/L	150	130	120	130	130	110	110	120	110	110	130	120
Hg	mg/L	< 0.0001	---	---	---	---	< 0.0001	---	---	---	---	< 0.0001	---
Ag	mg/L	< 0.00001	---	---	---	---	< 0.00001	---	---	---	---	< 0.00001	---
Al	mg/L	0.27	---	---	---	---	0.72	---	---	---	---	2.18	---
As	mg/L	0.0006	---	---	---	---	< 0.0002	---	---	---	---	0.0002	---
Ba	mg/L	0.00262	---	---	---	---	0.00288	---	---	---	---	0.00233	---
Be	mg/L	0.00012	---	---	---	---	0.00030	---	---	---	---	0.00081	---
B	mg/L	0.0053	---	---	---	---	0.0036	---	---	---	---	0.0039	---
Bi	mg/L	< 0.00001	---	---	---	---	< 0.00001	---	---	---	---	< 0.00001	---
Ca	mg/L	48.6	---	---	---	---	38.2	---	---	---	---	41.6	---
Cd	mg/L	0.000172	---	---	---	---	0.000431	---	---	---	---	0.00107	---
Co	mg/L	0.0133	---	---	---	---	0.0288	---	---	---	---	0.0736	---
Cr	mg/L	< 0.0005	---	---	---	---	0.0005	---	---	---	---	0.0012	---
Cu	mg/L	1.52	---	---	---	---	2.49	---	---	---	---	4.58	---
Fe	mg/L	0.24	---	---	---	---	0.48	---	---	---	---	1.23	---
K	mg/L	3.10	---	---	---	---	2.00	---	---	---	---	2.09	---
Li	mg/L	0.001	---	---	---	---	0.003	---	---	---	---	0.005	---
Mg	mg/L	2.79	---	---	---	---	1.66	---	---	---	---	1.55	---
Mn	mg/L	0.271	---	---	---	---	0.492	---	---	---	---	0.899	---
Mo	mg/L	< 0.00001	---	---	---	---	0.00103	---	---	---	---	< 0.00001	---
Na	mg/L	0.39	---	---	---	---	0.15	---	---	---	---	0.10	---
Ni	mg/L	0.0203	---	---	---	---	0.0385	---	---	---	---	0.122	---
Pb	mg/L	0.00010	---	---	---	---	0.00031	---	---	---	---	0.00014	---
Sb	mg/L	0.0004	---	---	---	---	0.0002	---	---	---	---	< 0.0002	---
Se	mg/L	0.003	---	---	---	---	0.001	---	---	---	---	0.003	---
Si	mg/L	0.60	---	---	---	---	0.82	---	---	---	---	1.76	---
Sn	mg/L	0.00043	---	---	---	---	0.00053	---	---	---	---	0.00051	---
Sr	mg/L	0.0843	---	---	---	---	0.0664	---	---	---	---	0.0783	---
Ti	mg/L	< 0.0001	---	---	---	---	0.0005	---	---	---	---	0.0013	---
Tl	mg/L	< 0.0002	---	---	---	---	< 0.0002	---	---	---	---	< 0.0002	---
U	mg/L	0.000078	---	---	---	---	0.000673	---	---	---	---	0.000250	---
V	mg/L	< 0.00003	---	---	---	---	< 0.00003	---	---	---	---	< 0.00003	---
W	mg/L	< 0.00003	---	---	---	---	< 0.00003	---	---	---	---	< 0.00003	---
Y	mg/L	0.000245	---	---	---	---	0.000437	---	---	---	---	0.000904	---
Zn	mg/L	0.025	---	---	---	---	0.054	---	---	---	---	0.140	---

**Reassay LIMS 10355-SEP09*

Test Specimen

Sample	Weight (g
1st Cl Scav Tls	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	22	23	24	25	26	27	28	29	30	31	32	33
LIMS		11047-NOV09	11128-NOV09	11149-NOV09	10007-DEC09	10032-DEC09	10057-DEC09	11205-DEC09	11238-DEC09	10008-JAN10	10032-JAN10	10058-JAN10	10085-JAN10
Hum Cell Leachate Vol	mLs	991	984	992	980	987	993	989	994	997	998	991	979
pH	units	4.05	4.10	3.96	3.90	3.82	3.74	3.76	3.64	3.70	3.60	3.71	3.70
Alkalinity	mg/L as $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Acidity	mg/L as $CaCO_3$	41	42	50	57	75	82	91	103	97	125	111	118
Conductivity	µS/cm	334	291	332	309	386	400	374	448	368	491	415	445
SO_4	mg/L	150	150	140	130	160	160	*160	170	170	200	160	170
Hg	mg/L	---	---	---	< 0.0001	---	---	---	---	< 0.0001	---	---	---
Ag	mg/L	---	---	---	0.00001	---	---	---	---	0.00003	---	---	---
Al	mg/L	---	---	---	5.63	---	---	---	---	9.33	---	---	---
As	mg/L	---	---	---	< 0.0002	---	---	---	---	0.0004	---	---	---
Ba	mg/L	---	---	---	0.00218	---	---	---	---	0.00342	---	---	---
Be	mg/L	---	---	---	0.00218	---	---	---	---	0.00325	---	---	---
B	mg/L	---	---	---	0.0031	---	---	---	---	0.0141	---	---	---
Bi	mg/L	---	---	---	0.00001	---	---	---	---	< 0.00001	---	---	---
Ca	mg/L	---	---	---	35.7	---	---	---	---	32.1	---	---	---
Cd	mg/L	---	---	---	0.00287	---	---	---	---	0.00399	---	---	---
Co	mg/L	---	---	---	0.164	---	---	---	---	0.174	---	---	---
Cr	mg/L	---	---	---	0.0056	---	---	---	---	0.0126	---	---	---
Cu	mg/L	---	---	---	9.93	---	---	---	---	21.8	---	---	---
Fe	mg/L	---	---	---	2.33	---	---	---	---	3.37	---	---	---
K	mg/L	---	---	---	2.03	---	---	---	---	1.94	---	---	---
Li	mg/L	---	---	---	0.007	---	---	---	---	0.006	---	---	---
Mg	mg/L	---	---	---	1.26	---	---	---	---	1.09	---	---	---
Mn	mg/L	---	---	---	1.03	---	---	---	---	0.677	---	---	---
Mo	mg/L	---	---	---	0.00009	---	---	---	---	0.00118	---	---	---
Na	mg/L	---	---	---	0.10	---	---	---	---	0.08	---	---	---
Ni	mg/L	---	---	---	0.315	---	---	---	---	0.362	---	---	---
Pb	mg/L	---	---	---	0.00021	---	---	---	---	0.00090	---	---	---
Sb	mg/L	---	---	---	< 0.0002	---	---	---	---	< 0.0002	---	---	---
Se	mg/L	---	---	---	< 0.001	---	---	---	---	< 0.001	---	---	---
Si	mg/L	---	---	---	2.84	---	---	---	---	3.83	---	---	---
Sn	mg/L	---	---	---	0.00066	---	---	---	---	0.00075	---	---	---
Sr	mg/L	---	---	---	0.0675	---	---	---	---	0.0510	---	---	---
Ti	mg/L	---	---	---	0.0002	---	---	---	---	0.0003	---	---	---
Tl	mg/L	---	---	---	< 0.0002	---	---	---	---	< 0.0002	---	---	---
U	mg/L	---	---	---	0.000564	---	---	---	---	0.00103	---	---	---
V	mg/L	---	---	---	< 0.00003	---	---	---	---	< 0.00003	---	---	---
W	mg/L	---	---	---	< 0.00003	---	---	---	---	0.00005	---	---	---
Y	mg/L	---	---	---	0.00237	---	---	---	---	0.00552	---	---	---
Zn	mg/L	---	---	---	0.354	---	---	---	---	0.467	---	---	---

**Reassay LIMS 10845-JAN10*

Test Specimen

Sample	Weight (g
1st Cl Scav Tls	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	34	35	36	37	38	39	40	41	42	43	44	45
LIMS		10008-FEB10	10033-FEB10	10062-FEB10	10088-FEB10	10008-MAR10	10034-MAR10	10060-MAR10	10085-MAR10	10129-MAR10	10008-APR10	10035-APR10	11077-APR10
Hum Cell Leachate Vol	mLs	992	989	985	991	992	986	992	992	995	990	991	993
pH	units	3.66	3.67	3.62	3.55	3.20	3.60	3.40	3.44	3.51	3.49	3.47	3.39
Alkalinity	mg/L as $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Acidity	mg/L as $CaCO_3$	122	124	127	138	145	151	162	129	135	123	126	130
Conductivity	µS/cm	460	468	465	504	529	530	629	497	534	513	550	558
SO_4	mg/L	190	180	180	210	220	210	250	200	200	210	210	230
Hg	mg/L	---	< 0.0001	---	---	---	---	< 0.0001	---	---	---	---	< 0.0001
Ag	mg/L	---	0.00002	---	---	---	---	0.00004	---	---	---	---	0.00004
Al	mg/L	---	11.1	---	---	---	---	10.8	---	---	---	---	7.86
As	mg/L	---	0.0003	---	---	---	---	0.0004	---	---	---	---	0.0006
Ba	mg/L	---	0.00170	---	---	---	---	0.00250	---	---	---	---	0.00307
Be	mg/L	---	0.00409	---	---	---	---	0.00404	---	---	---	---	0.00260
B	mg/L	---	0.0015	---	---	---	---	0.0021	---	---	---	---	0.0015
Bi	mg/L	---	< 0.00001	---	---	---	---	< 0.00001	---	---	---	---	0.00002
Ca	mg/L	---	31.2	---	---	---	---	39.0	---	---	---	---	35.6
Cd	mg/L	---	0.00344	---	---	---	---	0.00281	---	---	---	---	0.00166
Co	mg/L	---	0.164	---	---	---	---	0.142	---	---	---	---	0.0991
Cr	mg/L	---	0.0247	---	---	---	---	0.0475	---	---	---	---	0.0746
Cu	mg/L	---	31.4	---	---	---	---	40.5	---	---	---	---	41.4
Fe	mg/L	---	4.40	---	---	---	---	8.97	---	---	---	---	10.9
K	mg/L	---	1.75	---	---	---	---	2.23	---	---	---	---	1.80
Li	mg/L	---	0.005	---	---	---	---	< 0.001	---	---	---	---	0.002
Mg	mg/L	---	1.07	---	---	---	---	1.31	---	---	---	---	1.36
Mn	mg/L	---	0.552	---	---	---	---	0.509	---	---	---	---	0.367
Mo	mg/L	---	0.00008	---	---	---	---	0.00006	---	---	---	---	0.00011
Na	mg/L	---	0.08	---	---	---	---	0.10	---	---	---	---	0.12
Ni	mg/L	---	0.402	---	---	---	---	0.358	---	---	---	---	0.311
Pb	mg/L	---	0.00016	---	---	---	---	0.00026	---	---	---	---	0.00027
Sb	mg/L	---	< 0.0002	---	---	---	---	< 0.0002	---	---	---	---	< 0.0002
Se	mg/L	---	< 0.001	---	---	---	---	0.001	---	---	---	---	0.001
Si	mg/L	---	4.30	---	---	---	---	6.77	---	---	---	---	6.66
Sn	mg/L	---	0.00057	---	---	---	---	0.00053	---	---	---	---	0.00041
Sr	mg/L	---	0.0420	---	---	---	---	0.0446	---	---	---	---	0.0336
Ti	mg/L	---	0.0003	---	---	---	---	0.0004	---	---	---	---	0.0003
Tl	mg/L	---	< 0.0002	---	---	---	---	< 0.0002	---	---	---	---	< 0.0002
U	mg/L	---	0.00136	---	---	---	---	0.00151	---	---	---	---	0.00118
V	mg/L	---	< 0.00003	---	---	---	---	< 0.00003	---	---	---	---	0.00009
W	mg/L	---	< 0.00003	---	---	---	---	< 0.00003	---	---	---	---	< 0.00003
Y	mg/L	---	0.0121	---	---	---	---	0.0196	---	---	---	---	0.0240
Zn	mg/L	---	0.468	---	---	---	---	0.455	---	---	---	---	0.350

Test Specimen

Sample	Weight (g
1st Cl Scav Tls	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	46	47	48	49	50	51	52	53	54	55	56	57
LIMS		11101-APR10	10008-MAY10	10034-MAY10	10059-MAY10	10084-MAY10	10008-JUN10	10033-JUN10	10071-JUN10	10083-JUN10	10187-JUN10	10007-JUL10	10033-JUL10
Hum Cell Leachate Vol	mLs	989	980	991	986	992	988	995	990	993	992	975	991
pH	units	3.36	3.41	3.49	3.43	3.44	3.41	3.36	3.36	3.39	3.39	3.33	3.28
Alkalinity	mg/L as $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Acidity	mg/L as $CaCO_3$	140	135	118	118	126	131	128	128	122	130	127	129
Conductivity	µS/cm	518	591	524	523	560	561	578	577	568	598	588	599
SO_4	mg/L	220	220	190	180	210	220	240	220	220	220	220	250
Hg	mg/L	---	---	---	---	< 0.0001	---	---	---	---	< 0.0001	---	---
Ag	mg/L	---	---	---	---	0.00003	---	---	---	---	0.00007	---	---
Al	mg/L	---	---	---	---	7.42	---	---	---	---	6.30	---	---
As	mg/L	---	---	---	---	0.0003	---	---	---	---	0.0003	---	---
Ba	mg/L	---	---	---	---	0.00130	---	---	---	---	0.00128	---	---
Be	mg/L	---	---	---	---	0.00227	---	---	---	---	0.00160	---	---
B	mg/L	---	---	---	---	0.0011	---	---	---	---	0.0009	---	---
Bi	mg/L	---	---	---	---	< 0.00001	---	---	---	---	< 0.00001	---	---
Ca	mg/L	---	---	---	---	33.8	---	---	---	---	33.6	---	---
Cd	mg/L	---	---	---	---	0.00128	---	---	---	---	0.000926	---	---
Co	mg/L	---	---	---	---	0.0847	---	---	---	---	0.0666	---	---
Cr	mg/L	---	---	---	---	0.115	---	---	---	---	0.162	---	---
Cu	mg/L	---	---	---	---	41.1	---	---	---	---	39.0	---	---
Fe	mg/L	---	---	---	---	10.5	---	---	---	---	12.3	---	---
K	mg/L	---	---	---	---	1.28	---	---	---	---	1.18	---	---
Li	mg/L	---	---	---	---	0.002	---	---	---	---	< 0.001	---	---
Mg	mg/L	---	---	---	---	1.51	---	---	---	---	1.59	---	---
Mn	mg/L	---	---	---	---	0.281	---	---	---	---	0.254	---	---
Mo	mg/L	---	---	---	---	0.00001	---	---	---	---	0.00031	---	---
Na	mg/L	---	---	---	---	0.14	---	---	---	---	0.12	---	---
Ni	mg/L	---	---	---	---	0.237	---	---	---	---	0.238	---	---
Pb	mg/L	---	---	---	---	0.00064	---	---	---	---	0.00025	---	---
Sb	mg/L	---	---	---	---	0.0002	---	---	---	---	0.0005	---	---
Se	mg/L	---	---	---	---	< 0.001	---	---	---	---	< 0.001	---	---
Si	mg/L	---	---	---	---	6.92	---	---	---	---	7.14	---	---
Sn	mg/L	---	---	---	---	0.00031	---	---	---	---	0.00028	---	---
Sr	mg/L	---	---	---	---	0.0269	---	---	---	---	0.0243	---	---
Ti	mg/L	---	---	---	---	0.0003	---	---	---	---	0.0002	---	---
Tl	mg/L	---	---	---	---	< 0.0002	---	---	---	---	< 0.0002	---	---
U	mg/L	---	---	---	---	0.000974	---	---	---	---	0.000954	---	---
V	mg/L	---	---	---	---	0.00018	---	---	---	---	0.00897	---	---
W	mg/L	---	---	---	---	< 0.00003	---	---	---	---	0.00004	---	---
Y	mg/L	---	---	---	---	0.0333	---	---	---	---	0.0469	---	---
Zn	mg/L	---	---	---	---	0.261	---	---	---	---	0.558	---	---

Test Specimen

Sample	Weight (g
1st Cl Scav Tls	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	58	59	60	61	62	63	64	65	66	67	68	69
LIMS		10059-JUL10	10085-JUL10	10007-AUG10	10033-AUG10	10059-AUG10	11295-AUG10	10275-AUG10	10019-SEP10	10045-SEP10	10069-SEP10	10093-SEP10	10088-OCT10
Hum Cell Leachate Vol	mLs	990	992	991	1002	990	987	999	982	996	989	985	988
pH	units	3.33	3.30	3.35	3.29	3.30	3.26	3.18	3.33	3.29	3.26	3.33	3.30
Alkalinity	mg/L as $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Acidity	mg/L as $CaCO_3$	127	133	126	116	125	125	137	128	132	121	132	128
Conductivity	µS/cm	580	603	584	602	592	603	619	576	623	562	581	591
SO_4	mg/L	220	230	220	230	210	220	230	210	220	210	210	210
Hg	mg/L	---	---	< 0.0001	---	---	---	---	< 0.0001	---	---	---	---
Ag	mg/L	---	---	0.00003	---	---	---	---	0.00006	---	---	---	---
Al	mg/L	---	---	6.08	---	---	---	---	5.02	---	---	---	---
As	mg/L	---	---	0.0004	---	---	---	---	0.0007	---	---	---	---
Ba	mg/L	---	---	0.00126	---	---	---	---	0.00114	---	---	---	---
Be	mg/L	---	---	0.00137	---	---	---	---	0.00108	---	---	---	---
B	mg/L	---	---	0.0009	---	---	---	---	0.0011	---	---	---	---
Bi	mg/L	---	---	< 0.00001	---	---	---	---	< 0.00001	---	---	---	---
Ca	mg/L	---	---	32.7	---	---	---	---	27.6	---	---	---	---
Cd	mg/L	---	---	0.000749	---	---	---	---	0.000600	---	---	---	---
Co	mg/L	---	---	0.0589	---	---	---	---	0.0561	---	---	---	---
Cr	mg/L	---	---	0.182	---	---	---	---	0.205	---	---	---	---
Cu	mg/L	---	---	35.9	---	---	---	---	27.5	---	---	---	---
Fe	mg/L	---	---	16.0	---	---	---	---	16.6	---	---	---	---
K	mg/L	---	---	1.19	---	---	---	---	0.964	---	---	---	---
Li	mg/L	---	---	0.001	---	---	---	---	< 0.001	---	---	---	---
Mg	mg/L	---	---	1.88	---	---	---	---	1.79	---	---	---	---
Mn	mg/L	---	---	0.193	---	---	---	---	0.147	---	---	---	---
Mo	mg/L	---	---	0.00003	---	---	---	---	0.00004	---	---	---	---
Na	mg/L	---	---	0.10	---	---	---	---	0.04	---	---	---	---
Ni	mg/L	---	---	0.223	---	---	---	---	0.229	---	---	---	---
Pb	mg/L	---	---	0.00025	---	---	---	---	0.00011	---	---	---	---
Sb	mg/L	---	---	0.0005	---	---	---	---	0.0005	---	---	---	---
Se	mg/L	---	---	< 0.001	---	---	---	---	0.001	---	---	---	---
Si	mg/L	---	---	7.89	---	---	---	---	6.89	---	---	---	---
Sn	mg/L	---	---	0.00026	---	---	---	---	0.00036	---	---	---	---
Sr	mg/L	---	---	0.0226	---	---	---	---	0.0178	---	---	---	---
Ti	mg/L	---	---	0.0003	---	---	---	---	0.0006	---	---	---	---
Tl	mg/L	---	---	< 0.0002	---	---	---	---	< 0.0002	---	---	---	---
U	mg/L	---	---	0.000988	---	---	---	---	0.000944	---	---	---	---
V	mg/L	---	---	< 0.00003	---	---	---	---	< 0.00003	---	---	---	---
W	mg/L	---	---	< 0.00003	---	---	---	---	< 0.00003	---	---	---	---
Y	mg/L	---	---	0.0398	---	---	---	---	0.0359	---	---	---	---
Zn	mg/L	---	---	0.482	---	---	---	---	0.347	---	---	---	---

Test Specimen

Sample	Weight (g
1st Cl Scav Tls	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	70	71	72	73	74	75	76	77	78	79	80
LIMS		10112-OCT10	10260-OCT10	10281-OCT10	10006-NOV10	10029-NOV10	11183-NOV10	11204-NOV10	11225-NOV10	10014-DEC10	10044-DEC10	10069-DEC10
Hum Cell Leachate Vol	mLs	988	990	992	988	998	990	988	980	982	985	987
pH	units	3.33	3.29	3.29	3.33	3.26	3.26	3.19	3.23	3.24	3.24	3.18
Alkalinity	mg/L as $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Acidity	mg/L as $CaCO_3$	121	136	139	128	133	124	129	119	131	131	137
Conductivity	µS/cm	552	594	604	577	617	582	641	559	568	630	631
SO_4	mg/L	220	230	210	200	210	200	220	200	210	210	240
Hg	mg/L	< 0.0001	---	---	---	---	< 0.0001	---	---	---	---	< 0.0001
Ag	mg/L	0.00003	---	---	---	---	0.00004	---	---	---	---	0.00004
Al	mg/L	4.88	---	---	---	---	4.67	---	---	---	---	4.24
As	mg/L	0.0003	---	---	---	---	0.0004	---	---	---	---	0.0005
Ba	mg/L	0.00201	---	---	---	---	0.00116	---	---	---	---	0.00102
Be	mg/L	0.00085	---	---	---	---	0.00066	---	---	---	---	0.00053
B	mg/L	0.0022	---	---	---	---	0.0017	---	---	---	---	0.0010
Bi	mg/L	< 0.00001	---	---	---	---	< 0.00001	---	---	---	---	< 0.00001
Ca	mg/L	28.6	---	---	---	---	29.3	---	---	---	---	29.3
Cd	mg/L	0.000487	---	---	---	---	0.000449	---	---	---	---	0.000391
Co	mg/L	0.0450	---	---	---	---	0.0415	---	---	---	---	0.0429
Cr	mg/L	0.203	---	---	---	---	0.223	---	---	---	---	0.262
Cu	mg/L	26.0	---	---	---	---	21.1	---	---	---	---	21.6
Fe	mg/L	19.6	---	---	---	---	24.1	---	---	---	---	28.9
K	mg/L	0.893	---	---	---	---	0.904	---	---	---	---	0.884
Li	mg/L	0.001	---	---	---	---	< 0.001	---	---	---	---	< 0.001
Mg	mg/L	2.04	---	---	---	---	2.28	---	---	---	---	2.51
Mn	mg/L	0.118	---	---	---	---	0.100	---	---	---	---	0.0873
Mo	mg/L	0.00004	---	---	---	---	0.00015	---	---	---	---	< 0.00001
Na	mg/L	0.07	---	---	---	---	0.08	---	---	---	---	0.06
Ni	mg/L	0.210	---	---	---	---	0.235	---	---	---	---	0.256
Pb	mg/L	0.00018	---	---	---	---	0.00160	---	---	---	---	0.00005
Sb	mg/L	< 0.0002	---	---	---	---	< 0.0002	---	---	---	---	< 0.0002
Se	mg/L	< 0.001	---	---	---	---	< 0.001	---	---	---	---	< 0.001
Si	mg/L	6.86	---	---	---	---	7.35	---	---	---	---	7.14
Sn	mg/L	0.00025	---	---	---	---	0.00024	---	---	---	---	0.00024
Sr	mg/L	0.0177	---	---	---	---	0.0185	---	---	---	---	0.0194
Ti	mg/L	0.0008	---	---	---	---	0.0005	---	---	---	---	0.0011
Tl	mg/L	< 0.0002	---	---	---	---	< 0.0002	---	---	---	---	< 0.0002
U	mg/L	0.00115	---	---	---	---	0.001285	---	---	---	---	0.00156
V	mg/L	< 0.00003	---	---	---	---	< 0.00003	---	---	---	---	< 0.00003
W	mg/L	0.00008	---	---	---	---	< 0.00003	---	---	---	---	< 0.00003
Y	mg/L	0.0343	---	---	---	---	0.0323	---	---	---	---	0.0334
Zn	mg/L	0.315	---	---	---	---	0.254	---	---	---	---	0.256

Test Specimen

Sample	Weight (g
1st Cl Scav Tls	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	81	82	83	84	85	86	87	88	89	90	91	92
LIMS		10094-DEC10	10008-JAN11	10036-JAN11	10065-JAN11	10094-JAN11	10006-FEB11	10036-FEB11	10065-FEB11	10097-FEB11	10006-MAR11	10036-MAR11	10070-MAR11
Hum Cell Leachate Vol	mLs	991	991	964	991	989	991	991	993	990	994	986	995
pH	units	3.23	3.19	3.08	3.29	3.30	3.19	3.20	3.20	3.24	3.22	3.22	3.17
Alkalinity	mg/L as $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Acidity	mg/L as $CaCO_3$	136	123	144	136	125	146	140	138	128	138	137	146
Conductivity	µS/cm	619	590	673	641	586	658	637	618	599	640	624	640
SO_4	mg/L	220	190	220	220	200	220	210	230	210	220	210	220
Hg	mg/L	---	---	---	---	< 0.0001	---	---	---	---	0.0002	---	---
Ag	mg/L	---	---	---	---	0.00003	---	---	---	---	0.00005	---	---
Al	mg/L	---	---	---	---	3.12	---	---	---	---	3.29	---	---
As	mg/L	---	---	---	---	0.0005	---	---	---	---	0.0005	---	---
Ba	mg/L	---	---	---	---	0.00107	---	---	---	---	0.00106	---	---
Be	mg/L	---	---	---	---	0.00037	---	---	---	---	0.00037	---	---
B	mg/L	---	---	---	---	0.0006	---	---	---	---	0.0011	---	---
Bi	mg/L	---	---	---	---	< 0.00001	---	---	---	---	< 0.00001	---	---
Ca	mg/L	---	---	---	---	26.9	---	---	---	---	28.5	---	---
Cd	mg/L	---	---	---	---	0.000283	---	---	---	---	0.000431	---	---
Co	mg/L	---	---	---	---	0.0357	---	---	---	---	0.0360	---	---
Cr	mg/L	---	---	---	---	0.229	---	---	---	---	0.273	---	---
Cu	mg/L	---	---	---	---	15.8	---	---	---	---	15.4	---	---
Fe	mg/L	---	---	---	---	25.4	---	---	---	---	31.6	---	---
K	mg/L	---	---	---	---	0.762	---	---	---	---	0.793	---	---
Li	mg/L	---	---	---	---	< 0.001	---	---	---	---	0.001	---	---
Mg	mg/L	---	---	---	---	1.83	---	---	---	---	1.91	---	---
Mn	mg/L	---	---	---	---	0.0648	---	---	---	---	0.0599	---	---
Mo	mg/L	---	---	---	---	0.00005	---	---	---	---	0.00003	---	---
Na	mg/L	---	---	---	---	0.05	---	---	---	---	0.05	---	---
Ni	mg/L	---	---	---	---	0.186	---	---	---	---	0.169	---	---
Pb	mg/L	---	---	---	---	0.00008	---	---	---	---	0.00146	---	---
Sb	mg/L	---	---	---	---	< 0.0002	---	---	---	---	< 0.0002	---	---
Se	mg/L	---	---	---	---	< 0.001	---	---	---	---	< 0.001	---	---
Si	mg/L	---	---	---	---	6.14	---	---	---	---	6.80	---	---
Sn	mg/L	---	---	---	---	0.00021	---	---	---	---	0.00027	---	---
Sr	mg/L	---	---	---	---	0.0165	---	---	---	---	0.0185	---	---
Ti	mg/L	---	---	---	---	0.0012	---	---	---	---	0.0008	---	---
Tl	mg/L	---	---	---	---	< 0.0002	---	---	---	---	0.00008	---	---
U	mg/L	---	---	---	---	0.00139	---	---	---	---	0.00164	---	---
V	mg/L	---	---	---	---	< 0.00003	---	---	---	---	0.00118	---	---
W	mg/L	---	---	---	---	< 0.00003	---	---	---	---	< 0.00003	---	---
Y	mg/L	---	---	---	---	0.0263	---	---	---	---	0.0256	---	---
Zn	mg/L	---	---	---	---	0.194	---	---	---	---	0.167	---	---

Test Specimen

Sample	Weight (g
1st Cl Scav Tls	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	93	94	95	96	97	98	99	100
LIMS		10102-MAR11	10222-MAR11	10010-APR11	10039-APR11	10128-APR11	11054-APR11	10049-MAY11	10067-MAY11
Hum Cell Leachate Vol	mLs	988	990	1001	986	988	987	993	981
pH	units	3.21	3.19	3.20	3.15	3.20	3.16	3.19	3.13
Alkalinity	mg/L as $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2
Acidity	mg/L as $CaCO_3$	141	143	135	145	138	140	147	151
Conductivity	µS/cm	635	659	649	665	625	606	665	688
SO_4	mg/L	210	230	230	230	220	220	220	230
Hg	mg/L	---	---	< 0.0001	---	---	---	---	< 0.0001
Ag	mg/L	---	---	0.00005	---	---	---	---	0.00005
Al	mg/L	---	---	3.53	---	---	---	---	3.14
As	mg/L	---	---	0.0004	---	---	---	---	0.0005
Ba	mg/L	---	---	0.00202	---	---	---	---	0.00160
Be	mg/L	---	---	0.00028	---	---	---	---	0.00022
B	mg/L	---	---	0.0008	---	---	---	---	0.0007
Bi	mg/L	---	---	< 0.00001	---	---	---	---	< 0.00001
Ca	mg/L	---	---	30.2	---	---	---	---	29.7
Cd	mg/L	---	---	0.000225	---	---	---	---	0.000415
Co	mg/L	---	---	0.0355	---	---	---	---	0.0408
Cr	mg/L	---	---	0.267	---	---	---	---	0.290
Cu	mg/L	---	---	13.0	---	---	---	---	14.4
Fe	mg/L	---	---	37.3	---	---	---	---	38.7
K	mg/L	---	---	0.822	---	---	---	---	0.727
Li	mg/L	---	---	0.001	---	---	---	---	< 0.001
Mg	mg/L	---	---	1.98	---	---	---	---	1.69
Mn	mg/L	---	---	0.0576	---	---	---	---	0.0504
Mo	mg/L	---	---	0.00010	---	---	---	---	0.00001
Na	mg/L	---	---	0.04	---	---	---	---	0.03
Ni	mg/L	---	---	0.128	---	---	---	---	0.102
Pb	mg/L	---	---	0.00057	---	---	---	---	0.00015
Sb	mg/L	---	---	< 0.0002	---	---	---	---	< 0.0002
Se	mg/L	---	---	< 0.001	---	---	---	---	< 0.001
Si	mg/L	---	---	7.22	---	---	---	---	6.62
Sn	mg/L	---	---	0.00027	---	---	---	---	0.00020
Sr	mg/L	---	---	0.0204	---	---	---	---	0.0189
Ti	mg/L	---	---	0.0006	---	---	---	---	0.0008
Tl	mg/L	---	---	0.00007	---	---	---	---	0.00005
U	mg/L	---	---	0.00205	---	---	---	---	0.00187
V	mg/L	---	---	0.00141	---	---	---	---	0.00158
W	mg/L	---	---	< 0.00003	---	---	---	---	< 0.00003
Y	mg/L	---	---	0.0230	---	---	---	---	0.0192
Zn	mg/L	---	---	0.154	---	---	---	---	0.154

TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Test Specimen

Sample	Weight (g)
1st Cl Scav Tls	1000

Summary of ABA Test Data

Parameter	Units	Reference No.: 11249-MAY09
Sulphur (S)	%	19.4
Sulphide ($S^{=}$)	%	16.6
NP	t $CaCO_3$/1000 t	7.2
CO_3 NP	t $CaCO_3$/1000 t	0.85

Leachate Paremeters Measured | ***Acid Generation*** [1] | ***Acid Neutralization*** [1]

Weekly Leach No.	Volume Collected mL	pH units	Acidity $CaCO_3$ eq. mg/L	Alkalinity $CaCO_3$ eq. mg/L	Conductivity µmhos/cm	SO_4 mg/L	SO_4 Production Rate g/t/wk	Cumulative SO_4 Production g/t	Weekly S= Depletion %	Cumulative S= Depletion %	NP Consumption $CaCO_3$, g/t/wk	Cumulative NP Depletion %	Cumulative CO_3 NP Depletion %
0	421	7.05	<2	13	198	80	33.7	33.7	0.01	0.01	35.08	0.49	4.13
1	954	6.88	12	11	308	130	124.0	157.7	0.02	0.03	129.19	2.28	19.33
2	976	6.79	16	9	333	140	136.6	294.3	0.03	0.06	142.33	4.26	36.07
3	989	6.98	3	9	442	200	197.8	492.1	0.04	0.10	206.04	7.12	60.31
4	973	6.30	<2	5	331	150	146.0	638.1	0.03	0.13	152.03	9.23	78.20
5	985	6.43	3	3	284	130	128.1	766.1	0.03	0.15	133.39	11.08	93.89
6	988	5.84	4	<2	272	120	118.6	884.7	0.02	0.18	123.50	12.80	108.42
7	985	5.60	4	<2	286	130	128.1	1012.8	0.03	0.20	133.39	14.65	124.11
8	986	5.41	5	<2	279	120	118.3	1131.1	0.02	0.23	123.25	16.36	138.61
9	990	5.38	11	<2	308	140	138.6	1269.7	0.03	0.25	144.38	18.37	155.60
10	989	5.23	10	<2	305	150	148.4	1418.0	0.03	0.28	154.53	20.52	173.78
11	984	4.85	9	<2	298	130	127.9	1545.9	0.03	0.31	133.25	22.37	189.45
12	997	4.79	5	<2	280	120	119.6	1665.6	0.02	0.33	124.63	24.10	204.12
13	983	4.75	11	<2	275	130	127.8	1793.4	0.03	0.36	133.11	25.95	219.78
14	996	4.55	14	<2	277	130	129.5	1922.9	0.03	0.39	134.88	27.82	235.64
15	992	4.47	13	<2	255	110	109.1	2032.0	0.02	0.41	113.67	29.40	249.02
16	987	4.56	15	<2	252	110	108.6	2140.5	0.02	0.43	113.09	30.97	262.32
17	988	4.37	17	<2	277	120	118.6	2259.1	0.02	0.45	123.50	32.68	276.85
18	994	4.60	20	<2	254	110	109.3	2368.4	0.02	0.48	113.90	34.27	290.25
19	995	4.27	23	<2	263	110	109.5	2477.9	0.02	0.50	114.01	35.85	303.66
20	993	4.19	29	<2	287	130	129.1	2607.0	0.03	0.52	134.47	37.72	319.48

** Initial Week 0 leachate may included soluble sulphate, and may not indicate oxidation of sulphide in the sample material has occurred.*

[1] *Calculated values*

Summary - Weeks 0 to 20

Maximum Value	7.05	29	13	442	200	197.8	-	0.04	-	206	-	-
Minimum Value	4.19	<2	<2	198	80	33.7	-	0.01	-	35.1	-	-
Average Value	4.79	11	4	289	128	124.1	-	0.02	-	129.31	-	-

TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Test Specimen

Sample	Weight (g)
1st Cl Scav Tls	1000

Changes to Head Sample after 20 Weeks [1]

Parameter	Units	Reference No.: 11249-MAY09
Sulphide ($S^{=}$) Remaining	%	16.5
NP Remaining	t $CaCO_3$/1000 t	4.5
CO_3 NP Remaining	t $CaCO_3$/1000 t	-1.9

Leachate Paremeters Measured | ***Acid Generation*** [1] | ***Acid Neutralization*** [1]

Weekly Leach No.	Volume Collected mL	pH units	Acidity $CaCO_3$ eq. mg/L	Alkalinity $CaCO_3$ eq. mg/L	Conductivity µmhos/cm	SO_4 mg/L	SO_4 Production Rate g/t/wk	Cumulative SO_4 Production g/t	Weekly S= Depletion %	Cumulative S= Depletion %	NP Consumption $CaCO_3$, g/t/wk	Cumulative NP Depletion %	Cumulative CO_3 NP Depletion %
21	988	4.16	33	<2	291	120	118.6	2725.5	0.02	0.55	123.50	39.43	334.01
22	991	4.05	41	<2	334	150	148.7	2874.2	0.03	0.58	154.84	41.58	352.23
23	984	4.10	42	<2	291	150	147.6	3021.8	0.03	0.61	153.75	43.72	370.32
24	992	3.96	50	<2	332	140	138.9	3160.7	0.03	0.63	144.67	45.73	387.34
25	980	3.90	57	<2	309	130	127.4	3288.1	0.03	0.66	132.71	47.57	402.95
26	987	3.82	75	<2	386	160	157.9	3446.0	0.03	0.69	164.50	49.86	422.30
27	993	3.74	82	<2	400	160	158.9	3604.9	0.03	0.72	165.50	52.15	441.77
28	989	3.76	91	<2	374	160	158.2	3763.1	0.03	0.76	164.83	54.44	461.17
29	994	3.64	103	<2	448	170	169.0	3932.1	0.03	0.79	176.02	56.89	481.87
30	997	3.70	97	<2	368	170	169.5	4101.6	0.03	0.82	176.55	59.34	502.64
31	998	3.60	125	<2	491	200	199.6	4301.2	0.04	0.86	207.92	62.23	527.11
32	991	3.71	111	<2	415	160	158.6	4459.7	0.03	0.90	165.17	64.52	546.54
33	979	3.70	118	<2	445	170	166.4	4626.2	0.03	0.93	173.36	66.93	566.93
34	992	3.66	122	<2	460	190	188.5	4814.7	0.04	0.97	196.33	69.66	590.03
35	989	3.67	124	<2	468	180	178.0	4992.7	0.04	1.00	185.44	72.23	611.85
36	985	3.62	127	<2	465	180	177.3	5170.0	0.04	1.04	184.69	74.80	633.57
37	991	3.55	138	<2	504	210	208.1	5378.1	0.04	1.08	216.78	77.81	659.08
38	992	3.20	145	<2	529	220	218.2	5596.3	0.04	1.12	227.33	80.97	685.82
39	986	3.60	151	<2	530	210	207.1	5803.4	0.04	1.17	215.69	83.96	711.20
40	992	3.40	162	<2	629	250	248.0	6051.4	0.05	1.22	258.33	87.55	741.59

[1] *Calculated values*

Summary - Weeks 0 to 40

Maximum Value	7.05	162	13	629	250	248.0	-	0.05	-	258	-	-
Minimum Value	3.20	<2	<2	198	80	33.7	-	0.01	-	35.1	-	-
Average Value	3.95	54	3	354	150	147.6	-	0.03	-	153.74	-	-

TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Test Specimen

Sample	Weight (g)
1st Cl Scav Tls	1000

Changes to Head Sample after 40 Weeks [1]

Parameter	Units	Reference No.: 11249-MAY09
Sulphide ($S^{=}$) Remaining	%	16.4
NP Remaining	t $CaCO_3$/1000 t	0.9
CO_3 NP Remaining	t $CaCO_3$/1000 t	-5.5

Leachate Paremeters Measured | ***Acid Generation*** [1] | ***Acid Neutralization*** [1]

Weekly Leach No.	Volume Collected mL	pH units	Acidity $CaCO_3$ eq. mg/L	Alkalinity $CaCO_3$ eq. mg/L	Conductivity µmhos/cm	SO_4 mg/L	SO_4 Production Rate g/t/wk	Cumulative SO_4 Production g/t	Weekly S= Depletion %	Cumulative S= Depletion %	NP Consumption $CaCO_3$, g/t/wk	Cumulative NP Depletion %	Cumulative CO_3 NP Depletion %
41	992	3.44	129	<2	497	200	198.4	6249.8	0.04	1.25	206.67	90.42	765.90
42	995	3.51	135	<2	534	200	199.0	6448.8	0.04	1.29	207.29	93.30	790.29
43	990	3.49	123	<2	513	210	207.9	6656.7	0.04	1.34	216.56	96.31	815.77
44	991	3.47	126	<2	550	210	208.1	6864.8	0.04	1.38	216.78	99.32	841.27
45	993	3.39	130	<2	558	230	228.4	7093.2	0.05	1.42	237.91	102.62	869.26
46	989	3.36	140	<2	518	220	217.6	7310.8	0.04	1.47	226.65	105.77	895.93
47	980	3.41	135	<2	591	220	215.6	7526.4	0.04	1.51	224.58	108.89	922.35
48	991	3.49	118	<2	524	190	188.3	7714.7	0.04	1.55	196.14	111.61	945.42
49	986	3.43	118	<2	523	180	177.5	7892.1	0.04	1.58	184.88	114.18	967.17
50	992	3.44	126	<2	560	210	208.3	8100.5	0.04	1.63	217.00	117.19	992.70
51	988	3.41	131	<2	561	220	217.4	8317.8	0.04	1.67	226.42	120.34	1019.34
52	995	3.36	128	<2	578	240	238.8	8556.6	0.05	1.72	248.75	123.79	1048.60
53	990	3.36	128	<2	577	220	217.8	8774.4	0.04	1.76	226.88	126.94	1075.30
54	993	3.39	122	<2	568	220	218.5	8992.9	0.04	1.81	227.56	130.11	1102.07
55	992	3.39	130	<2	598	220	218.2	9211.1	0.04	1.85	227.33	133.26	1128.81
56	975	3.33	127	<2	588	220	214.5	9425.6	0.04	1.89	223.44	136.37	1155.10
57	991	3.28	129	<2	599	250	247.8	9673.4	0.05	1.94	258.07	139.95	1185.46
58	990	3.33	127	<2	580	220	217.8	9891.2	0.04	1.99	226.88	143.10	1212.15
59	992	3.30	133	<2	603	230	228.2	10119.3	0.05	2.03	237.67	146.40	1240.11
60	991	3.35	126	<2	584	220	218.0	10337.3	0.04	2.08	227.10	149.56	1266.83

[1] *Calculated values*

Summary - Weeks 0 to 60

Maximum Value	7.05	162	13	629	250	248.0	-	0.05	-	258.33	-	-
Minimum Value	3.20	<2	<2	198	80	33.7	-	0.01	-	35.08	-	-
Average Value	3.68	78	3	422	172	169.5	-	0.03	-	176.53	-	-

TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Test Specimen

Sample	Weight (g)
1st Cl Scav Tls	1000

Changes to Head Sample after 60 Weeks [1]

Parameter	Units	Reference No.: 11249-MAY09
Sulphide ($S^{=}$) Remaining	%	16.3
NP Remaining	t $CaCO_3$/1000 t	-3.6
CO_3 NP Remaining	t $CaCO_3$/1000 t	-9.9

Leachate Paremeters Measured

Weekly Leach No.	Volume Collected mL	pH units	Acidity $CaCO_3$ eq. mg/L	Alkalinity $CaCO_3$ eq. mg/L	Conductivity µmhos/cm	SO_4 mg/L
61	1002	3.29	116	<2	602	230
62	990	3.30	125	<2	592	210
63	987	3.26	125	<2	603	220
64	999	3.18	137	<2	619	230
65	982	3.33	128	<2	576	210
66	996	3.29	132	<2	623	220
67	989	3.26	121	<2	562	210
68	985	3.33	132	<2	581	210
69	988	3.30	128	<2	591	210
70	988	3.33	121	<2	552	220
71	990	3.29	136	<2	594	230
72	992	3.29	139	<2	604	210
73	988	3.33	128	<2	577	200
74	998	3.26	133	<2	617	210
75	990	3.26	124	<2	582	200
76	988	3.19	129	<2	641	220
77	980	3.23	119	<2	559	200
78	982	3.24	131	<2	568	210
79	985	3.24	131	<2	630	210
80	987	3.18	137	<2	631	240

Acid Generation [1]

SO_4 Production Rate g/t/wk	Cumulative SO_4 Production g/t	Weekly S= Depletion %	Cumulative S= Depletion %
230.5	10567.8	0.05	2.12
207.9	10775.7	0.04	2.16
217.1	10992.8	0.04	2.21
229.8	11222.6	0.05	2.25
206.2	11428.8	0.04	2.29
219.1	11648.0	0.04	2.34
207.7	11855.6	0.04	2.38
206.9	12062.5	0.04	2.42
207.5	12270.0	0.04	2.46
217.4	12487.3	0.04	2.51
227.7	12715.0	0.05	2.55
208.3	12923.4	0.04	2.60
197.6	13121.0	0.04	2.63
209.6	13330.5	0.04	2.68
198.0	13528.5	0.04	2.72
217.4	13745.9	0.04	2.76
196.0	13941.9	0.04	2.80
206.2	14148.1	0.04	2.84
206.9	14355.0	0.04	2.88
236.9	14591.8	0.05	2.93

Acid Neutralization [1]

NP Consumption $CaCO_3$, g/t/wk	Cumulative NP Depletion %	Cumulative CO_3 NP Depletion %
240.06	152.89	1295.07
216.56	155.90	1320.55
226.19	159.04	1347.16
239.34	162.36	1375.32
214.81	165.35	1400.59
228.25	168.52	1427.44
216.34	171.52	1452.90
215.47	174.52	1478.25
216.13	177.52	1503.67
226.42	180.66	1530.31
237.19	183.96	1558.21
217.00	186.97	1583.74
205.83	189.83	1607.96
218.31	192.86	1633.64
206.25	195.73	1657.91
226.42	198.87	1684.55
204.17	201.71	1708.56
214.81	204.69	1733.84
215.47	207.68	1759.19
246.75	211.11	1788.22

[1] *Calculated values*

Summary - Weeks 0 to 80

Maximum Value	7.05	162	13	641	250	248.0	-	0.05	-	258	-	-
Minimum Value	3.18	<2	<2	198	80	33.7	-	0.01	-	35.1	-	-
Average Value	3.54	91	2	465	183	180	-	0.04	-	187.65	-	-

TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Test Specimen

Sample	Weight (g)
1st Cl Scav Tls	1000

Changes to Head Sample after 80 Weeks [1]

Parameter	Units	Reference No.: 11249-MAY09
Sulphide ($S^{=}$) Remaining	%	16.1
NP Remaining	t $CaCO_3$/1000 t	-8.0
CO_3 NP Remaining	t $CaCO_3$/1000 t	-14.3

Leachate Paremeters Measured

Weekly Leach No.	Volume Collected mL	pH units	Acidity $CaCO_3$ eq. mg/L	Alkalinity $CaCO_3$ eq. mg/L	Conductivity µmhos/cm	SO_4 mg/L
81	991	3.23	136	<2	619	220
82	991	3.19	123	<2	590	190
83	964	3.08	144	<2	673	220
84	991	3.29	136	<2	641	220
85	989	3.30	125	<2	586	200
86	991	3.19	146	<2	658	220
87	991	3.20	140	<2	637	210
88	993	3.20	138	<2	618	230
89	990	3.24	128	<2	599	210
90	994	3.22	138	<2	640	220
91	986	3.22	137	<2	624	210
92	995	3.17	146	<2	640	220
93	988	3.21	141	<2	635	210
94	990	3.19	143	<2	659	230
95	1001	3.20	135	<2	649	230
96	986	3.15	145	<2	665	230
97	988	3.20	138	<2	625	220
98	987	3.16	140	<2	606	220
99	993	3.19	147	<2	665	220
100	981	3.13	151	<2	688	230

Acid Generation [1]

SO_4 Production Rate g/t/wk	Cumulative SO_4 Production g/t	Weekly S= Depletion %	Cumulative S= Depletion %
218.0	14809.9	0.04	2.97
188.3	14998.2	0.04	3.01
212.1	15210.2	0.04	3.05
218.0	15428.3	0.04	3.10
197.8	15626.1	0.04	3.14
218.0	15844.1	0.04	3.18
208.1	16052.2	0.04	3.22
228.4	16280.6	0.05	3.27
207.9	16488.5	0.04	3.31
218.7	16707.2	0.04	3.35
207.1	16914.2	0.04	3.40
218.9	17133.1	0.04	3.44
207.5	17340.6	0.04	3.48
227.7	17568.3	0.05	3.53
230.2	17798.5	0.05	3.57
226.8	18025.3	0.05	3.62
217.4	18242.7	0.04	3.66
217.1	18459.8	0.04	3.71
218.5	18678.3	0.04	3.75
225.6	18903.9	0.05	3.80

Acid Neutralization [1]

NP Consumption $CaCO_3$, g/t/wk	Cumulative NP Depletion %	Cumulative CO_3 NP Depletion %
227.10	214.26	1814.93
196.14	216.99	1838.01
220.92	220.06	1864.00
227.10	223.21	1890.72
206.04	226.07	1914.96
227.10	229.23	1941.68
216.78	232.24	1967.18
237.91	235.54	1995.17
216.56	238.55	2020.65
227.79	241.71	2047.44
215.69	244.71	2072.82
228.02	247.87	2099.65
216.13	250.88	2125.07
237.19	254.17	2152.98
239.82	257.50	2181.19
236.23	260.78	2208.98
226.42	263.93	2235.62
226.19	267.07	2262.23
227.56	270.23	2289.00
235.03	273.49	2316.65

[1] *Calculated values*

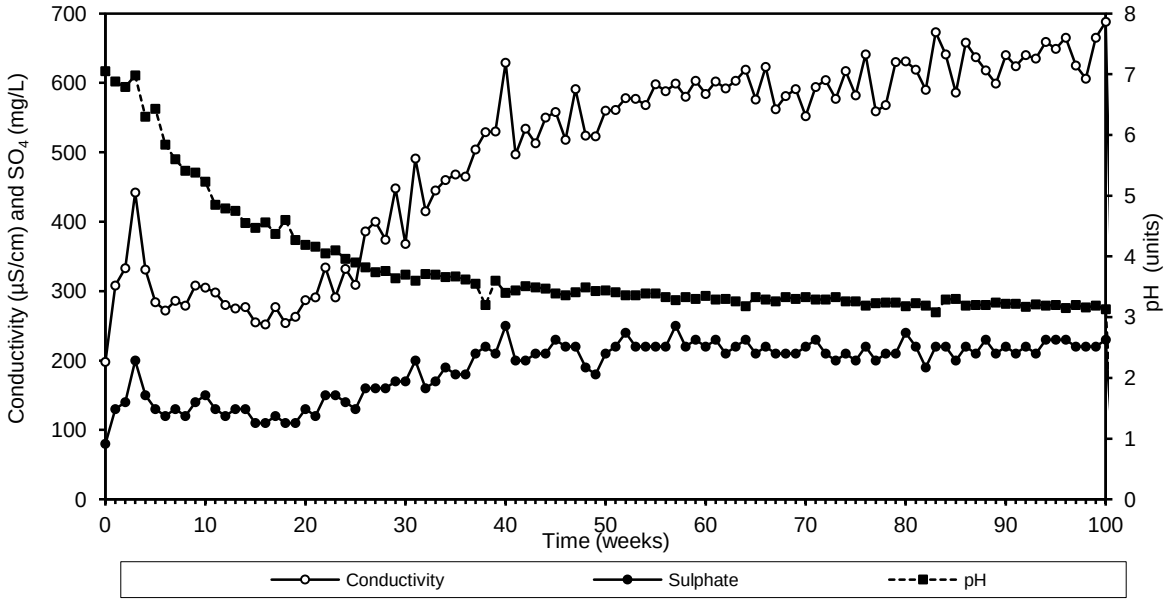
Summary - Weeks 0 to 100

	pH	Acidity $CaCO_3$ eq. mg/L	Alkalinity $CaCO_3$ eq. mg/L	Conductivity µmhos/cm	SO_4 mg/L	SO_4 Production Rate g/t/wk	Cumulative SO_4 Production g/t	Weekly S= Depletion %	Cumulative S= Depletion %	NP Consumption $CaCO_3$, g/t/wk	Cumulative NP Depletion %	Cumulative CO_3 NP Depletion %
Maximum Value	7.05	162	13	688	250	248.0	-	0.05	-	258	-	-
Minimum Value	3.08	<2	<2	198	80	33.7	-	0.01	-	35.1	-	-
Average Value	3.44	100	2	499	190	187.2	-	0.04	-	194.97	-	-

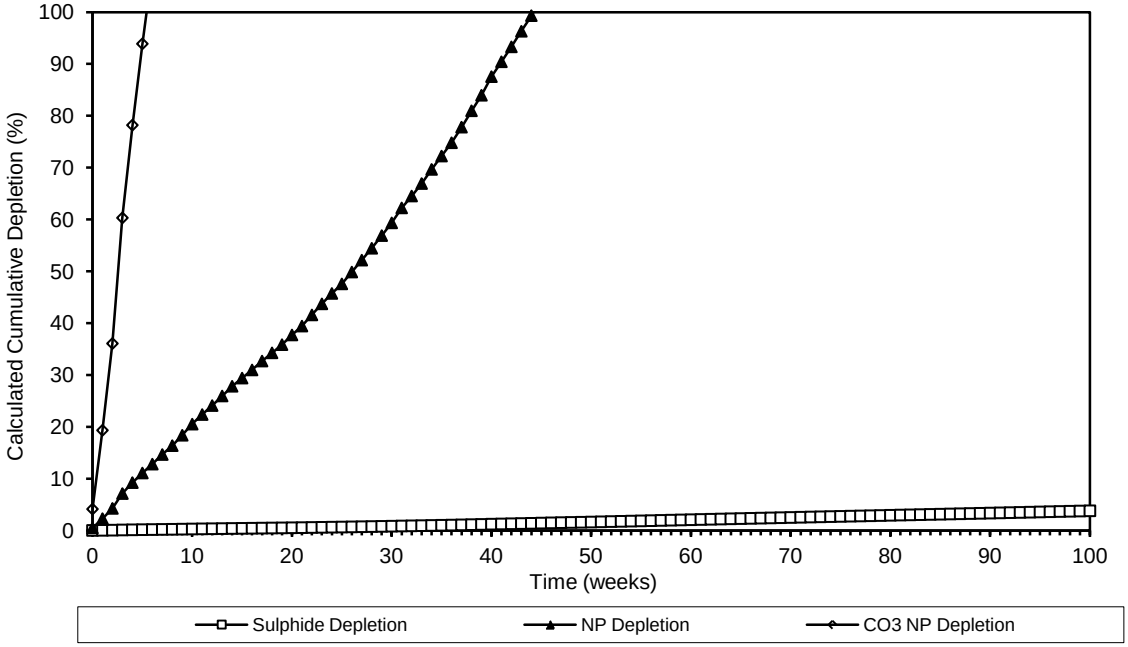
TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Conductivity, Sulphate, and pH in Weekly Humidity Cell Leachate - 1st Cl Scav Tls



Cumulative Sulphide and NP Depletion 1st Cl Scav Tls

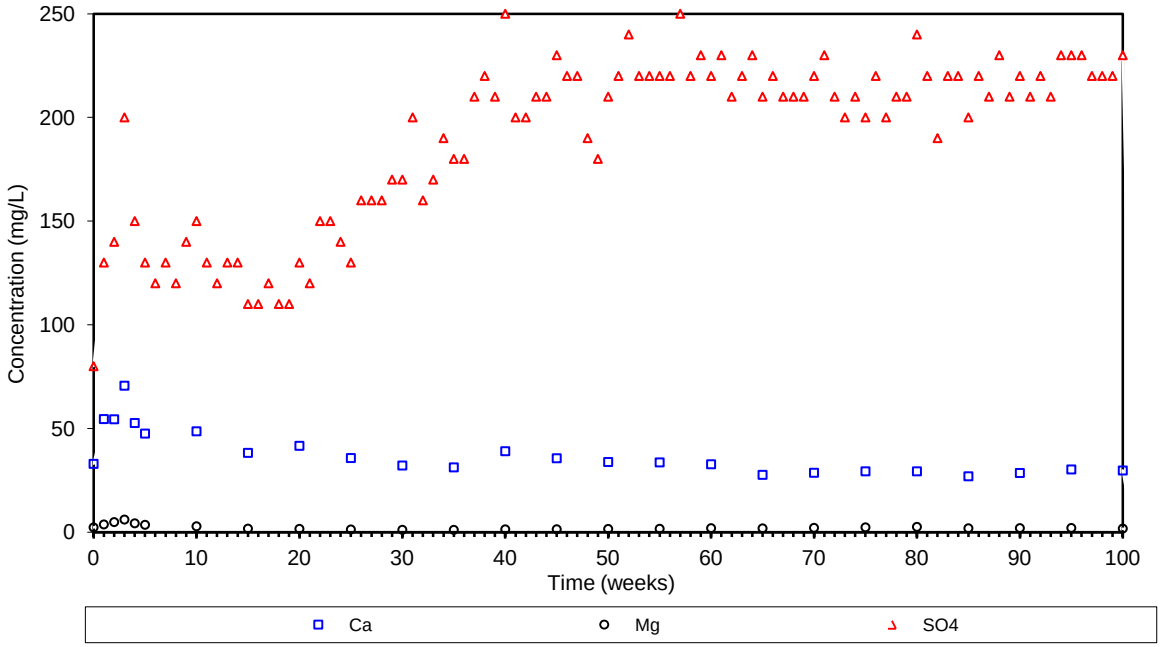


Note: NP depletion calculated based on sulphate assay.

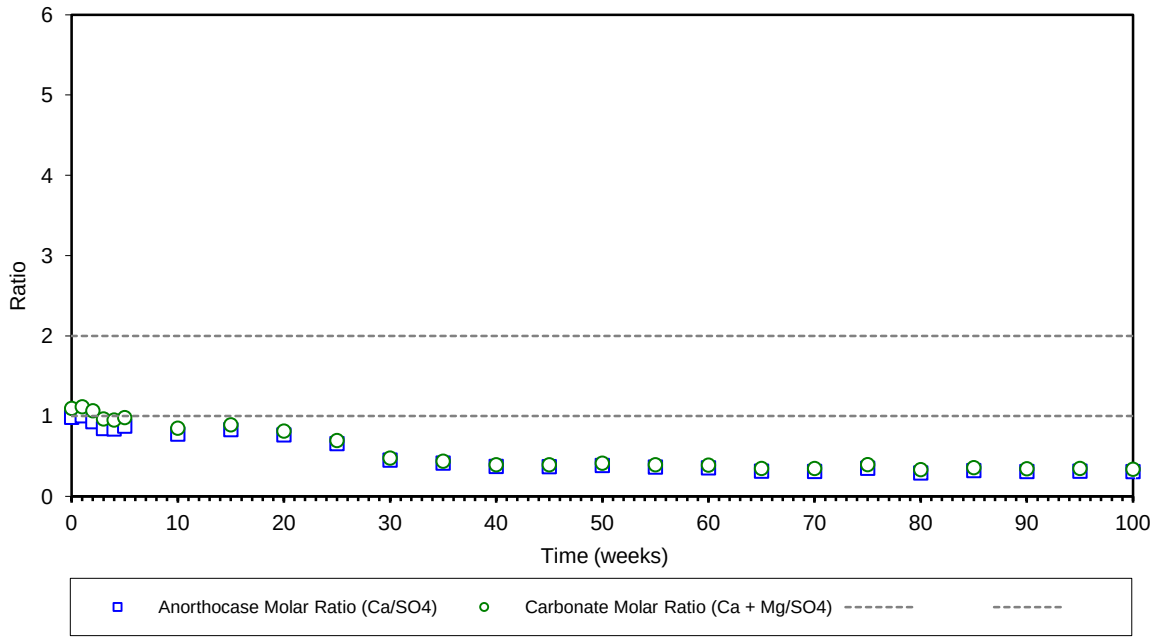
TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Selected Parameters in Weekly Humidity Cell Leachate 1st Cl Scav Tls



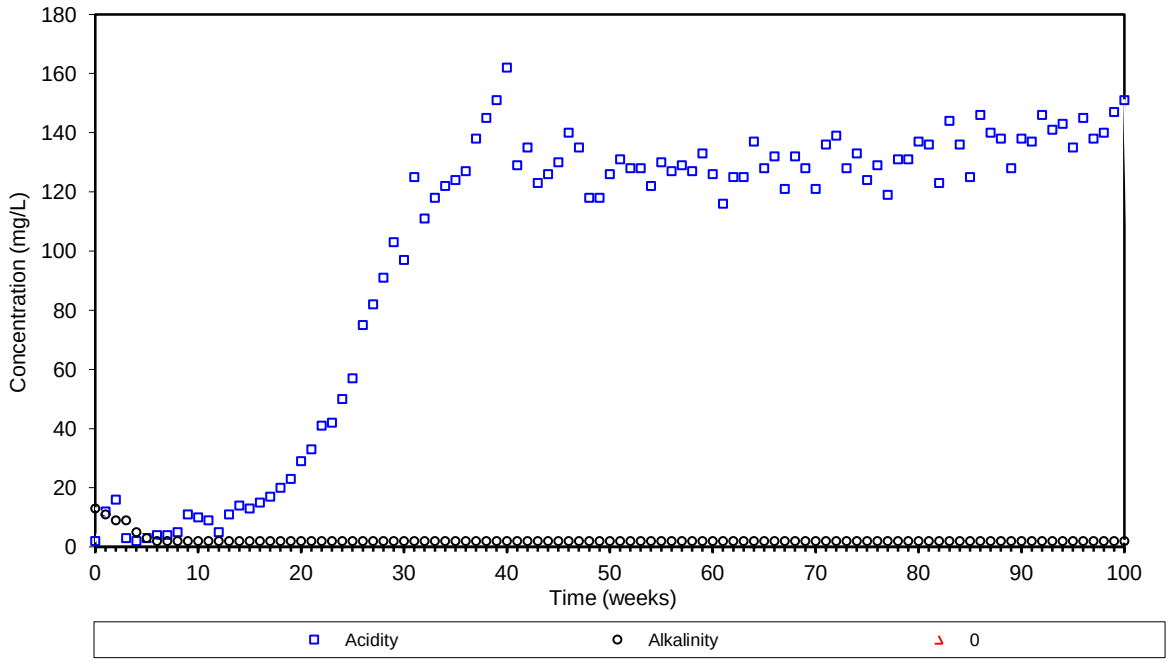
Carbonate (Ca + Mg/SO$_4$) and Anorthoclase (Ca/SO$_4$) Molar Ratios 1st Cl Scav Tls



TEST REPORT

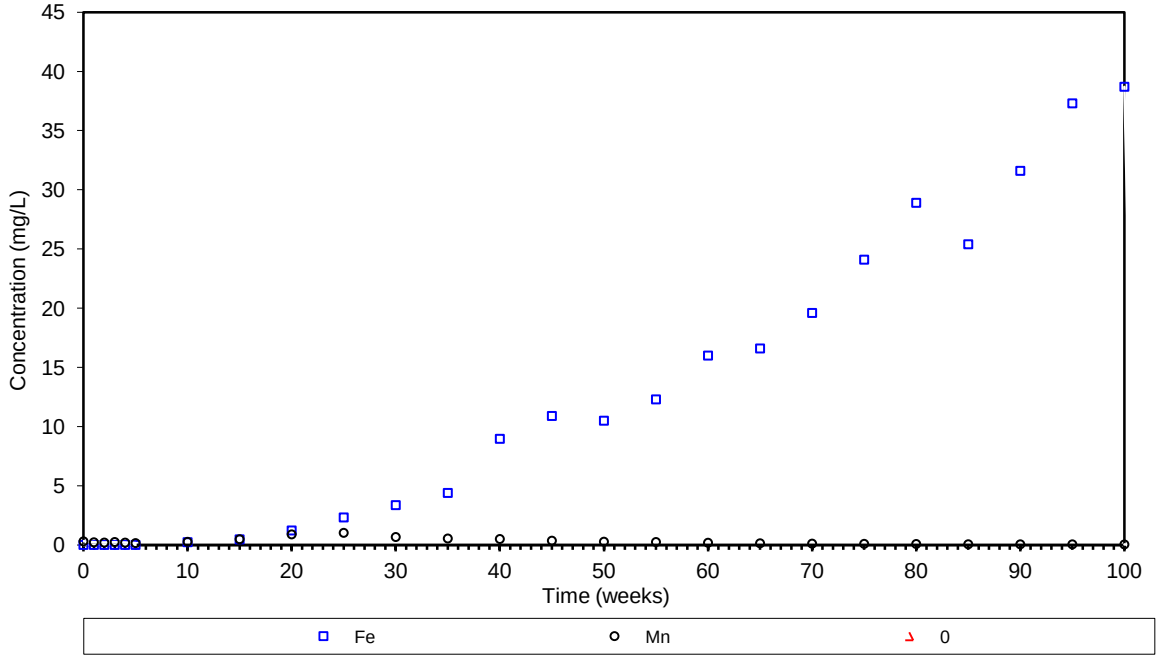
Humidity Cell Test (ASTM D 5744-96)

Selected Parameters in Weekly Humidity Cell Leachate 1st Cl Scav Tls



Note: Acidity and alkalinity have detection limit of 2 mg/L.

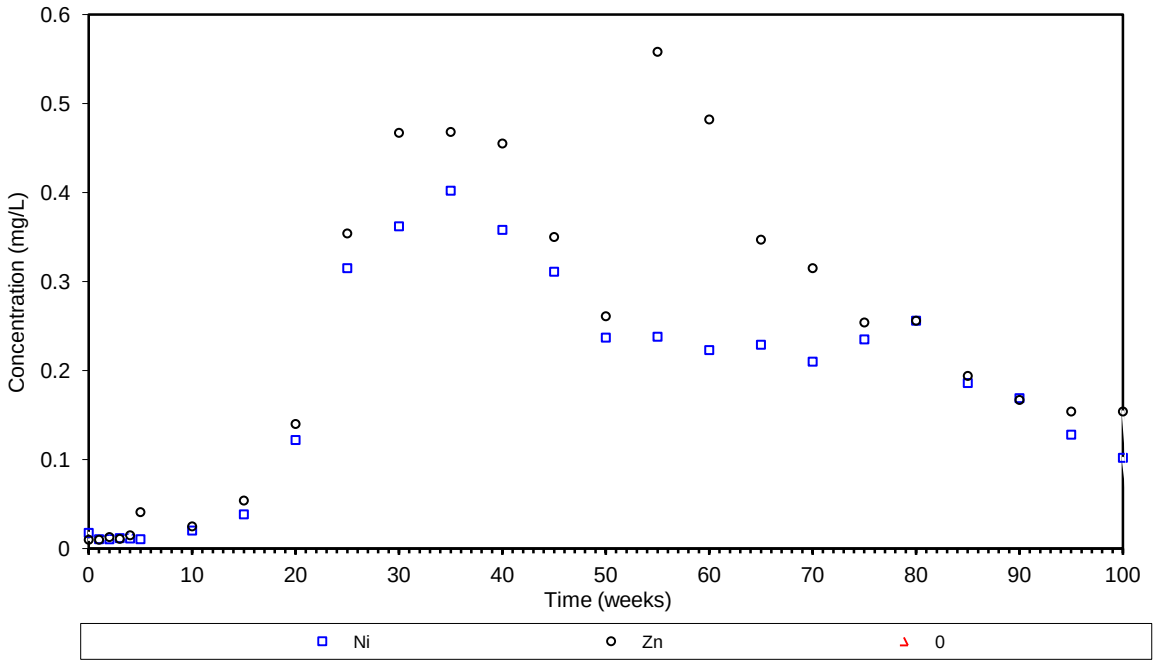
Selected Parameters in Weekly Humidity Cell Leachate 1st Cl Scav Tls



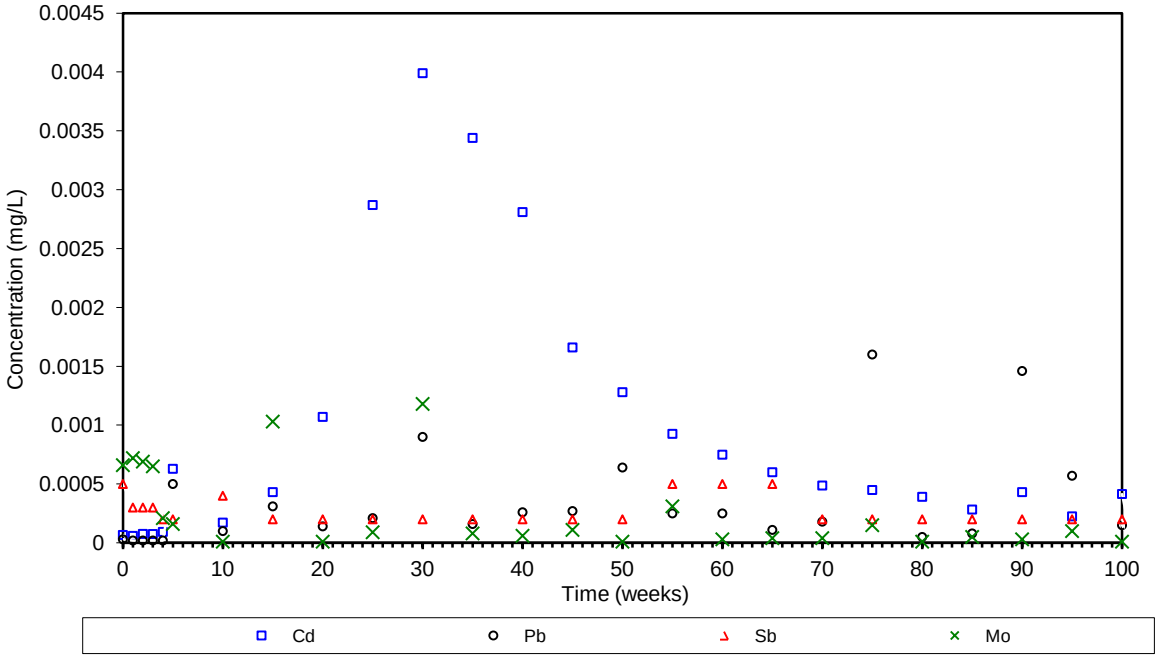
TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Selected Parameters in Weekly Humidity Cell Leachate 1st Cl Scav Tls



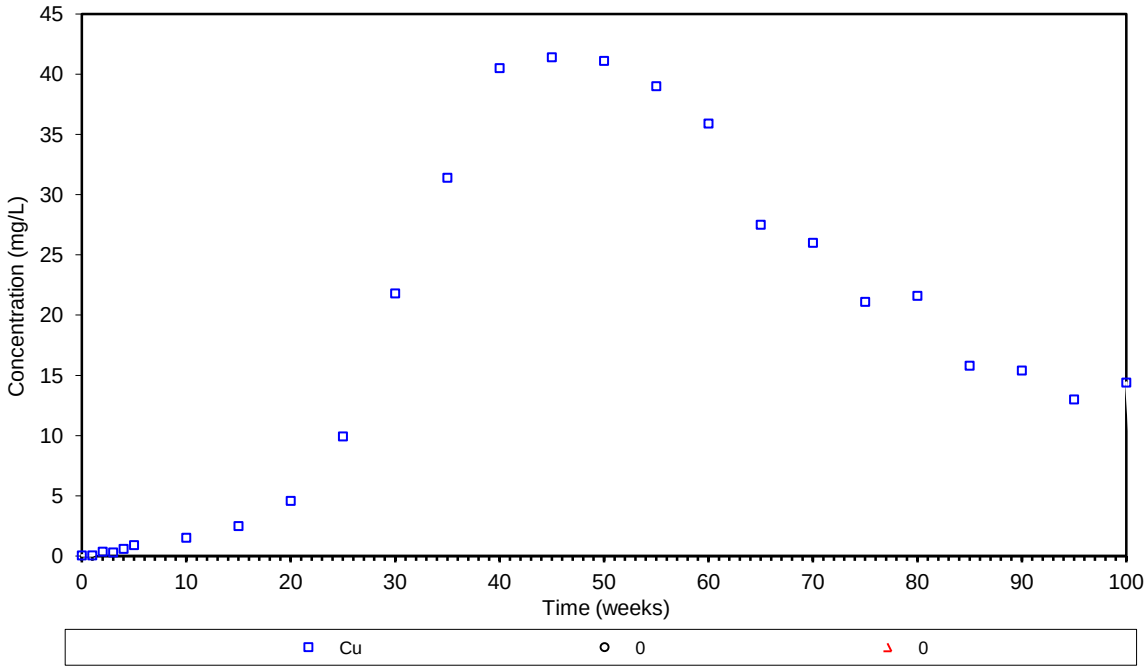
Selected Parameters in Weekly Humidity Cell Leachate 1st Cl Scav Tls



TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Selected Parameters in Weekly Humidity Cell Leachate 1st Cl Scav Tls



Test Specimen

Sample	Weight (g)
Whole Tls	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	0	1	2	3	4	5	6	7	8	9	10
LIMS		11105-JUN09	11106-JUN09	11107-JUN09	11143-JUN09	10009-JUL09	10027-JUL09	10046-JUL09	11076-JUL09	10008-AUG09	10040-AUG09	10166-AUG09
Hum Cell Leachate Vol	mLs	449	981	989	990	985	993	993	985	989	993	989
pH	units	7.33	6.80	6.68	6.96	6.56	6.50	6.30	6.13	5.93	6.11	5.94
Alkalinity	mg/L as $CaCO_3$	9	11	7	7	5	5	3	3	<2	2	<2
Acidity	mg/L as $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	2	<2	6	4
Conductivity	µS/cm	326	385	333	340	279	106	266	281	266	319	290
SO_4	mg/L	140	160	140	150	120	130	120	120	110	140	140
Hg	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	---	---	---	---	< 0.0001
Ag	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	---	---	---	---	< 0.00001
Al	mg/L	< 0.01	< 0.01	0.04	< 0.01	< 0.01	< 0.01	---	---	---	---	0.07
As	mg/L	0.0004	0.0005	0.0009	0.0004	0.0004	0.0003	---	---	---	---	< 0.0002
Ba	mg/L	0.0109	0.00731	0.00589	0.00479	0.00393	0.00444	---	---	---	---	0.00405
Be	mg/L	< 0.00002	< 0.00002	0.00006	< 0.00002	< 0.00002	< 0.00002	---	---	---	---	0.00006
B	mg/L	0.0057	0.0067	0.0059	0.0061	0.0053	0.0056	---	---	---	---	0.0049
Bi	mg/L	0.00002	< 0.00001	0.00003	< 0.00001	< 0.00001	< 0.00001	---	---	---	---	< 0.00001
Ca	mg/L	52.5	64.0	55.6	57.1	47.3	51.0	---	---	---	---	50.7
Cd	mg/L	0.000031	0.000105	0.000095	0.000067	0.000050	0.000144	---	---	---	---	0.000122
Co	mg/L	0.00551	0.00886	0.00626	0.00521	0.00380	0.00377	---	---	---	---	0.00623
Cr	mg/L	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	---	---	---	---	< 0.0005
Cu	mg/L	0.0083	0.0771	0.143	0.0735	0.0626	0.0679	---	---	---	---	0.364
Fe	mg/L	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	---	---	---	---	< 0.01
K	mg/L	7.00	7.40	5.51	4.88	3.57	3.64	---	---	---	---	2.54
Li	mg/L	0.001	0.001	0.001	< 0.001	< 0.001	< 0.001	---	---	---	---	< 0.001
Mg	mg/L	3.53	4.73	2.82	2.33	1.64	1.60	---	---	---	---	0.958
Mn	mg/L	0.288	0.420	0.259	0.212	0.158	0.146	---	---	---	---	0.173
Mo	mg/L	0.00324	0.00262	0.00184	0.00155	0.00098	0.00069	---	---	---	---	0.00008
Na	mg/L	1.50	1.56	0.95	0.75	0.50	0.44	---	---	---	---	0.19
Ni	mg/L	0.0052	0.0082	0.0068	0.0059	0.0040	0.0039	---	---	---	---	0.0074
Pb	mg/L	0.00003	< 0.00002	0.00003	< 0.00002	0.00050	0.00014	---	---	---	---	0.00004
Sb	mg/L	0.0010	0.0004	0.0005	0.0004	0.0002	0.0002	---	---	---	---	0.0004
Se	mg/L	< 0.001	0.002	< 0.001	< 0.001	< 0.001	< 0.001	---	---	---	---	< 0.001
Si	mg/L	0.26	0.60	0.54	0.51	0.45	0.50	---	---	---	---	0.76
Sn	mg/L	0.00326	0.00076	0.00032	0.00025	0.00019	0.00020	---	---	---	---	0.00011
Sr	mg/L	0.115	0.143	0.115	0.110	0.0847	0.0890	---	---	---	---	0.0841
Ti	mg/L	0.0007	0.0006	< 0.0001	< 0.0001	< 0.0001	0.0005	---	---	---	---	< 0.0001
Tl	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	---	---	---	---	< 0.0002
U	mg/L	0.000044	0.000066	0.000058	0.000073	0.000035	0.000033	---	---	---	---	0.000285
V	mg/L	0.00004	< 0.00003	0.00003	0.00004	0.00005	< 0.00003	---	---	---	---	< 0.00003
W	mg/L	0.00007	< 0.00003	< 0.00003	< 0.00003	< 0.00003	0.00003	---	---	---	---	< 0.00003
Y	mg/L	0.000005	0.000011	0.000024	0.000016	0.000012	0.000013	---	---	---	---	0.000069
Zn	mg/L	0.006	0.018	0.014	0.008	0.006	0.011	---	---	---	---	0.015

Test Specimen

Sample	Weight (
Whole Tls	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	11	12	13	14	15	16	17	18	19	20	21	22
LIMS		10183-AUG09	10006-SEP09	10023-SEP09	10040-SEP09	10155-SEP09	11062-SEP09	10018-OCT09	11051-OCT09	11061-OCT09	11170-OCT09	10011-NOV09	11047-NOV09
Hum Cell Leachate Vol	mLs	980	1003	952	870	963	881	889	1004	879	938	869	857
pH	units	5.94	5.46	5.66	4.90	5.08	5.05	4.82	4.74	4.88	4.50	4.60	4.59
Alkalinity	mg/L as $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Acidity	mg/L as $CaCO_3$	2	6	3	9	8	9	11	17	14	25	26	29
Conductivity	µS/cm	291	266	218	164	208	172	178	240	164	219	184	179
SO_4	mg/L	130	120	97	74	100	71	71	100	71	96	80	80
Hg	mg/L	---	---	---	---	< 0.0001	---	---	---	---	< 0.0001	---	---
Ag	mg/L	---	---	---	---	< 0.00001	---	---	---	---	< 0.00001	---	---
Al	mg/L	---	---	---	---	0.57	---	---	---	---	2.59	---	---
As	mg/L	---	---	---	---	0.0003	---	---	---	---	0.0003	---	---
Ba	mg/L	---	---	---	---	0.00382	---	---	---	---	0.00307	---	---
Be	mg/L	---	---	---	---	0.00030	---	---	---	---	0.00109	---	---
B	mg/L	---	---	---	---	0.0034	---	---	---	---	0.0035	---	---
Bi	mg/L	---	---	---	---	< 0.00001	---	---	---	---	< 0.00001	---	---
Ca	mg/L	---	---	---	---	32.7	---	---	---	---	33.6	---	---
Cd	mg/L	---	---	---	---	0.000374	---	---	---	---	0.00140	---	---
Co	mg/L	---	---	---	---	0.0198	---	---	---	---	0.0723	---	---
Cr	mg/L	---	---	---	---	< 0.0005	---	---	---	---	< 0.0005	---	---
Cu	mg/L	---	---	---	---	1.29	---	---	---	---	3.13	---	---
Fe	mg/L	---	---	---	---	0.06	---	---	---	---	0.30	---	---
K	mg/L	---	---	---	---	1.60	---	---	---	---	1.94	---	---
Li	mg/L	---	---	---	---	0.002	---	---	---	---	0.004	---	---
Mg	mg/L	---	---	---	---	0.532	---	---	---	---	0.694	---	---
Mn	mg/L	---	---	---	---	0.260	---	---	---	---	0.479	---	---
Mo	mg/L	---	---	---	---	0.00024	---	---	---	---	< 0.00001	---	---
Na	mg/L	---	---	---	---	0.06	---	---	---	---	0.04	---	---
Ni	mg/L	---	---	---	---	0.0203	---	---	---	---	0.0749	---	---
Pb	mg/L	---	---	---	---	0.00010	---	---	---	---	0.00011	---	---
Sb	mg/L	---	---	---	---	0.0003	---	---	---	---	< 0.0002	---	---
Se	mg/L	---	---	---	---	< 0.001	---	---	---	---	0.003	---	---
Si	mg/L	---	---	---	---	0.99	---	---	---	---	2.19	---	---
Sn	mg/L	---	---	---	---	0.00022	---	---	---	---	0.00013	---	---
Sr	mg/L	---	---	---	---	0.0576	---	---	---	---	0.0718	---	---
Ti	mg/L	---	---	---	---	0.0004	---	---	---	---	0.0009	---	---
Tl	mg/L	---	---	---	---	< 0.0002	---	---	---	---	< 0.0002	---	---
U	mg/L	---	---	---	---	0.000240	---	---	---	---	0.000228	---	---
V	mg/L	---	---	---	---	< 0.00003	---	---	---	---	< 0.00003	---	---
W	mg/L	---	---	---	---	< 0.00003	---	---	---	---	< 0.00003	---	---
Y	mg/L	---	---	---	---	0.000304	---	---	---	---	0.000638	---	---
Zn	mg/L	---	---	---	---	0.064	---	---	---	---	0.278	---	---

Test Specimen

Sample	Weight (
Whole Tls	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	23	24	25	26	27	28	29	30	31	32	33	34
LIMS		11128-NOV09	11149-NOV09	10007-DEC09	10032-DEC09	10057-DEC09	11205-DEC09	11238-DEC09	10008-JAN10	10032-JAN10	10058-JAN10	10085-JAN10	10008-FEB10
Hum Cell Leachate Vol	mLs	881	868	907	874	874	891	849	838	868	883	948	867
pH	units	4.63	4.49	4.59	4.96	4.39	4.45	4.34	4.45	4.25	4.31	4.27	4.88
Alkalinity	mg/L as $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Acidity	mg/L as $CaCO_3$	34	34	42	38	43	51	49	48	53	52	75	38
Conductivity	µS/cm	196	197	207	183	199	205	203	174	207	199	279	180
SO_4	mg/L	100	82	94	75	79	*93	**83	76	83	78	120	74
Hg	mg/L	---	---	< 0.0001	---	---	---	---	< 0.0001	---	---	---	---
Ag	mg/L	---	---	< 0.00001	---	---	---	---	0.00001	---	---	---	---
Al	mg/L	---	---	5.13	---	---	---	---	5.87	---	---	---	---
As	mg/L	---	---	< 0.0002	---	---	---	---	0.0003	---	---	---	---
Ba	mg/L	---	---	0.00257	---	---	---	---	0.00202	---	---	---	---
Be	mg/L	---	---	0.00227	---	---	---	---	0.00222	---	---	---	---
B	mg/L	---	---	0.0024	---	---	---	---	0.0046	---	---	---	---
Bi	mg/L	---	---	< 0.00001	---	---	---	---	0.00001	---	---	---	---
Ca	mg/L	---	---	26.5	---	---	---	---	18.0	---	---	---	---
Cd	mg/L	---	---	0.00208	---	---	---	---	0.00160	---	---	---	---
Co	mg/L	---	---	0.0799	---	---	---	---	0.0587	---	---	---	---
Cr	mg/L	---	---	< 0.0005	---	---	---	---	0.0007	---	---	---	---
Cu	mg/L	---	---	7.37	---	---	---	---	9.82	---	---	---	---
Fe	mg/L	---	---	0.43	---	---	---	---	0.37	---	---	---	---
K	mg/L	---	---	1.80	---	---	---	---	1.19	---	---	---	---
Li	mg/L	---	---	0.006	---	---	---	---	0.003	---	---	---	---
Mg	mg/L	---	---	0.544	---	---	---	---	0.367	---	---	---	---
Mn	mg/L	---	---	0.374	---	---	---	---	0.218	---	---	---	---
Mo	mg/L	---	---	< 0.00001	---	---	---	---	0.00029	---	---	---	---
Na	mg/L	---	---	0.16	---	---	---	---	0.04	---	---	---	---
Ni	mg/L	---	---	0.106	---	---	---	---	0.0978	---	---	---	---
Pb	mg/L	---	---	0.00010	---	---	---	---	0.00043	---	---	---	---
Sb	mg/L	---	---	< 0.0002	---	---	---	---	< 0.0002	---	---	---	---
Se	mg/L	---	---	< 0.001	---	---	---	---	0.001	---	---	---	---
Si	mg/L	---	---	2.52	---	---	---	---	2.00	---	---	---	---
Sn	mg/L	---	---	0.00016	---	---	---	---	0.00011	---	---	---	---
Sr	mg/L	---	---	0.0507	---	---	---	---	0.0282	---	---	---	---
Ti	mg/L	---	---	0.0002	---	---	---	---	0.0002	---	---	---	---
Tl	mg/L	---	---	< 0.0002	---	---	---	---	< 0.0002	---	---	---	---
U	mg/L	---	---	0.000356	---	---	---	---	0.000415	---	---	---	---
V	mg/L	---	---	< 0.00003	---	---	---	---	< 0.00003	---	---	---	---
W	mg/L	---	---	< 0.00003	---	---	---	---	< 0.00003	---	---	---	---
Y	mg/L	---	---	0.00135	---	---	---	---	0.00171	---	---	---	---
Zn	mg/L	---	---	0.346	---	---	---	---	0.268	---	---	---	---

**Reassay LIMS 10845-JAN10 **Reassay LIMS 10934-JAN10*

Test Specimen

Sample	Weight (g
Whole Tls	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	35	36	37	38	39	40	41	42	43	44	45	46
LIMS		10033-FEB10	10062-FEB10	10088-FEB10	10008-MAR10	10034-MAR10	10060-MAR10	10085-MAR10	10129-MAR10	10008-APR10	10035-APR10	11077-APR10	11101-APR10
Hum Cell Leachate Vol	mLs	869	861	952	986	842	844	850	959	927	824	863	835
pH	units	4.46	4.30	4.04	3.77	4.23	4.10	4.22	3.99	3.97	4.07	3.94	3.94
Alkalinity	mg/L as $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Acidity	mg/L as $CaCO_3$	48	57	81	81	57	53	49	75	61	46	50	51
Conductivity	µS/cm	188	203	284	288	180	195	179	258	226	185	200	174
SO_4	mg/L	70	80	120	120	64	72	72	94	91	67	73	64
Hg	mg/L	< 0.0001	---	---	---	---	< 0.0001	---	---	---	---	< 0.0001	---
Ag	mg/L	< 0.00001	---	---	---	---	< 0.00001	---	---	---	---	0.00001	---
Al	mg/L	5.59	---	---	---	---	5.62	---	---	---	---	5.74	---
As	mg/L	< 0.0002	---	---	---	---	< 0.0002	---	---	---	---	< 0.0002	---
Ba	mg/L	0.00177	---	---	---	---	0.00334	---	---	---	---	0.0128	---
Be	mg/L	0.00222	---	---	---	---	0.00208	---	---	---	---	0.00174	---
B	mg/L	0.0006	---	---	---	---	0.0007	---	---	---	---	0.0005	---
Bi	mg/L	< 0.00001	---	---	---	---	< 0.00001	---	---	---	---	< 0.00001	---
Ca	mg/L	15.1	---	---	---	---	14.6	---	---	---	---	14.1	---
Cd	mg/L	*0.000104	---	---	---	---	0.000939	---	---	---	---	0.00188	---
Co	mg/L	0.0448	---	---	---	---	0.0367	---	---	---	---	0.0332	---
Cr	mg/L	0.0010	---	---	---	---	0.0018	---	---	---	---	0.0041	---
Cu	mg/L	9.73	---	---	---	---	9.44	---	---	---	---	10.9	---
Fe	mg/L	0.51	---	---	---	---	0.67	---	---	---	---	0.90	---
K	mg/L	0.97	---	---	---	---	0.97	---	---	---	---	1.02	---
Li	mg/L	0.002	---	---	---	---	< 0.001	---	---	---	---	0.001	---
Mg	mg/L	0.287	---	---	---	---	0.282	---	---	---	---	0.329	---
Mn	mg/L	0.145	---	---	---	---	0.109	---	---	---	---	0.103	---
Mo	mg/L	0.00001	---	---	---	---	0.00001	---	---	---	---	0.00002	---
Na	mg/L	0.02	---	---	---	---	< 0.01	---	---	---	---	0.04	---
Ni	mg/L	0.0868	---	---	---	---	0.0732	---	---	---	---	0.0725	---
Pb	mg/L	0.00087	---	---	---	---	0.00009	---	---	---	---	0.00427	---
Sb	mg/L	< 0.0002	---	---	---	---	< 0.0002	---	---	---	---	< 0.0002	---
Se	mg/L	0.001	---	---	---	---	< 0.001	---	---	---	---	< 0.001	---
Si	mg/L	1.90	---	---	---	---	2.25	---	---	---	---	2.60	---
Sn	mg/L	0.00015	---	---	---	---	0.00011	---	---	---	---	0.00014	---
Sr	mg/L	0.0195	---	---	---	---	0.0176	---	---	---	---	0.0158	---
Ti	mg/L	0.0001	---	---	---	---	0.0001	---	---	---	---	0.0001	---
Tl	mg/L	< 0.0002	---	---	---	---	< 0.0002	---	---	---	---	< 0.0002	---
U	mg/L	0.000490	---	---	---	---	0.000535	---	---	---	---	0.000525	---
V	mg/L	< 0.00003	---	---	---	---	< 0.00003	---	---	---	---	< 0.00003	---
W	mg/L	< 0.00003	---	---	---	---	< 0.00003	---	---	---	---	< 0.00003	---
Y	mg/L	0.00224	---	---	---	---	0.00314	---	---	---	---	0.00400	---
Zn	mg/L	0.206	---	---	---	---	0.181	---	---	---	---	0.181	---

**Reassay LIMS 10851-MAR10*

Test Specimen

Sample	Weight (
Whole Tls	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	47	48	49	50	51	52	53	54	55	56	57	58
LIMS		10008-MAY10	10034-MAY10	10059-MAY10	10084-MAY10	10008-JUN10	10033-JUN10	10071-JUN10	10083-JUN10	10187-JUN10	10007-JUL10	10033-JUL10	10059-JUL10
Hum Cell Leachate Vol	mLs	904	915	873	946	870	874	872	867	884	949	876	942
pH	units	3.81	3.85	3.86	3.80	3.83	3.75	3.72	3.75	3.73	3.63	3.62	3.58
Alkalinity	mg/L as $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Acidity	mg/L as $CaCO_3$	65	54	53	65	59	59	58	63	61	65	55	67
Conductivity	µS/cm	258	219	211	260	243	246	241	247	266	291	259	293
SO_4	mg/L	89	73	69	86	84	92	85	83	84	96	89	100
Hg	mg/L	---	---	---	< 0.0001	---	---	---	---	< 0.0001	---	---	---
Ag	mg/L	---	---	---	0.00002	---	---	---	---	0.00004	---	---	---
Al	mg/L	---	---	---	7.40	---	---	---	---	5.94	---	---	---
As	mg/L	---	---	---	0.0002	---	---	---	---	0.0003	---	---	---
Ba	mg/L	---	---	---	0.00237	---	---	---	---	0.00177	---	---	---
Be	mg/L	---	---	---	0.00193	---	---	---	---	0.00135	---	---	---
B	mg/L	---	---	---	0.0005	---	---	---	---	< 0.0002	---	---	---
Bi	mg/L	---	---	---	< 0.00001	---	---	---	---	< 0.00001	---	---	---
Ca	mg/L	---	---	---	16.2	---	---	---	---	14.0	---	---	---
Cd	mg/L	---	---	---	0.000812	---	---	---	---	0.000660	---	---	---
Co	mg/L	---	---	---	0.0370	---	---	---	---	0.0299	---	---	---
Cr	mg/L	---	---	---	0.0121	---	---	---	---	0.0236	---	---	---
Cu	mg/L	---	---	---	15.4	---	---	---	---	15.0	---	---	---
Fe	mg/L	---	---	---	1.11	---	---	---	---	1.34	---	---	---
K	mg/L	---	---	---	1.08	---	---	---	---	0.884	---	---	---
Li	mg/L	---	---	---	0.001	---	---	---	---	< 0.001	---	---	---
Mg	mg/L	---	---	---	0.510	---	---	---	---	0.548	---	---	---
Mn	mg/L	---	---	---	0.109	---	---	---	---	0.106	---	---	---
Mo	mg/L	---	---	---	< 0.00001	---	---	---	---	0.00006	---	---	---
Na	mg/L	---	---	---	0.08	---	---	---	---	0.09	---	---	---
Ni	mg/L	---	---	---	0.0742	---	---	---	---	0.0708	---	---	---
Pb	mg/L	---	---	---	0.00028	---	---	---	---	0.00008	---	---	---
Sb	mg/L	---	---	---	< 0.0002	---	---	---	---	0.0003	---	---	---
Se	mg/L	---	---	---	< 0.001	---	---	---	---	< 0.001	---	---	---
Si	mg/L	---	---	---	3.98	---	---	---	---	3.49	---	---	---
Sn	mg/L	---	---	---	0.00035	---	---	---	---	0.00023	---	---	---
Sr	mg/L	---	---	---	0.0139	---	---	---	---	0.0103	---	---	---
Ti	mg/L	---	---	---	0.0002	---	---	---	---	< 0.0001	---	---	---
Tl	mg/L	---	---	---	< 0.0002	---	---	---	---	< 0.0002	---	---	---
U	mg/L	---	---	---	0.000496	---	---	---	---	0.000442	---	---	---
V	mg/L	---	---	---	< 0.00003	---	---	---	---	0.00436	---	---	---
W	mg/L	---	---	---	< 0.00003	---	---	---	---	< 0.00003	---	---	---
Y	mg/L	---	---	---	0.00931	---	---	---	---	0.0157	---	---	---
Zn	mg/L	---	---	---	0.176	---	---	---	---	0.278	---	---	---

Test Specimen

Sample	Weight (
Whole Tls	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	59	60	61	62	63	64	65	66	67	68	69	70
LIMS		10085-JUL10	10007-AUG10	10033-AUG10	10059-AUG10	11295-AUG10	10275-AUG10	10019-SEP10	10045-SEP10	10069-SEP10	10093-SEP10	10088-OCT10	10112-OCT10
Hum Cell Leachate Vol	mLs	868	992	883	939	988	991	989	893	908	897	990	993
pH	units	3.63	3.55	3.58	3.55	3.49	3.43	3.53	3.62	3.59	3.63	3.57	3.60
Alkalinity	mg/L as $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Acidity	mg/L as $CaCO_3$	55	72	53	64	69	69	64	43	42	47	58	56
Conductivity	µS/cm	256	331	259	306	326	333	317	245	228	245	313	288
SO_4	mg/L	83	110	85	95	100	110	99	69	69	70	100	90
Hg	mg/L	---	< 0.0001	---	---	---	---	< 0.0001	---	---	---	---	< 0.0001
Ag	mg/L	---	0.00002	---	---	---	---	0.00002	---	---	---	---	0.00001
Al	mg/L	---	6.43	---	---	---	---	4.82	---	---	---	---	4.21
As	mg/L	---	< 0.0002	---	---	---	---	0.0003	---	---	---	---	0.0002
Ba	mg/L	---	0.00306	---	---	---	---	0.00262	---	---	---	---	0.00430
Be	mg/L	---	0.00130	---	---	---	---	0.00103	---	---	---	---	0.00077
B	mg/L	---	0.0006	---	---	---	---	0.0008	---	---	---	---	0.0018
Bi	mg/L	---	< 0.00001	---	---	---	---	< 0.00001	---	---	---	---	< 0.00001
Ca	mg/L	---	17.2	---	---	---	---	14.8	---	---	---	---	16.9
Cd	mg/L	---	0.000752	---	---	---	---	0.000601	---	---	---	---	0.000496
Co	mg/L	---	0.0358	---	---	---	---	0.0336	---	---	---	---	0.0268
Cr	mg/L	---	0.0373	---	---	---	---	0.0400	---	---	---	---	0.0395
Cu	mg/L	---	17.6	---	---	---	---	13.0	---	---	---	---	11.2
Fe	mg/L	---	2.46	---	---	---	---	2.70	---	---	---	---	2.33
K	mg/L	---	1.28	---	---	---	---	1.03	---	---	---	---	0.995
Li	mg/L	---	0.001	---	---	---	---	< 0.001	---	---	---	---	0.001
Mg	mg/L	---	0.978	---	---	---	---	0.986	---	---	---	---	1.13
Mn	mg/L	---	0.117	---	---	---	---	0.106	---	---	---	---	0.0994
Mo	mg/L	---	0.00003	---	---	---	---	0.00001	---	---	---	---	< 0.00001
Na	mg/L	---	0.15	---	---	---	---	0.10	---	---	---	---	0.14
Ni	mg/L	---	0.0769	---	---	---	---	0.0845	---	---	---	---	0.0760
Pb	mg/L	---	0.00023	---	---	---	---	0.00122	---	---	---	---	0.00012
Sb	mg/L	---	0.0005	---	---	---	---	0.0005	---	---	---	---	< 0.0002
Se	mg/L	---	< 0.001	---	---	---	---	< 0.001	---	---	---	---	< 0.001
Si	mg/L	---	6.21	---	---	---	---	6.04	---	---	---	---	5.94
Sn	mg/L	---	0.00092	---	---	---	---	0.00106	---	---	---	---	0.00088
Sr	mg/L	---	0.0122	---	---	---	---	0.0104	---	---	---	---	0.0113
Ti	mg/L	---	0.0003	---	---	---	---	0.0005	---	---	---	---	0.0007
Tl	mg/L	---	< 0.0002	---	---	---	---	< 0.0002	---	---	---	---	< 0.0002
U	mg/L	---	0.000511	---	---	---	---	0.000453	---	---	---	---	0.000531
V	mg/L	---	< 0.00003	---	---	---	---	< 0.00003	---	---	---	---	< 0.00003
W	mg/L	---	< 0.00003	---	---	---	---	< 0.00003	---	---	---	---	< 0.00003
Y	mg/L	---	0.0255	---	---	---	---	0.0247	---	---	---	---	0.0315
Zn	mg/L	---	0.319	---	---	---	---	0.232	---	---	---	---	0.191

Test Specimen

Sample	Weight (
Whole Tls	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	71	72	73	74	75	76	77	78	79	80	81	82
LIMS		10260-OCT10	10281-OCT10	10006-NOV10	10029-NOV10	11183-NOV10	11204-NOV10	11225-NOV10	10014-DEC10	10044-DEC10	10069-DEC10	10094-DEC10	10008-JAN11
Hum Cell Leachate Vol	mLs	957	904	982	875	945	859	876	900	891	890	870	963
pH	units	3.61	3.61	3.57	3.93	3.51	3.57	3.57	3.54	3.51	3.43	3.42	3.32
Alkalinity	mg/L as $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Acidity	mg/L as $CaCO_3$	51	44	52	32	47	38	39	50	49	53	58	61
Conductivity	µS/cm	273	241	295	206	284	243	228	267	318	322	341	359
SO_4	mg/L	86	65	90	69	81	66	67	89	86	92	96	97
Hg	mg/L	---	---	---	---	< 0.0001	---	---	---	---	< 0.0001	---	---
Ag	mg/L	---	---	---	---	0.00001	---	---	---	---	0.00001	---	---
Al	mg/L	---	---	---	---	3.33	---	---	---	---	2.98	---	---
As	mg/L	---	---	---	---	0.0003	---	---	---	---	0.0004	---	---
Ba	mg/L	---	---	---	---	0.00240	---	---	---	---	0.00225	---	---
Be	mg/L	---	---	---	---	0.00053	---	---	---	---	0.00043	---	---
B	mg/L	---	---	---	---	0.0011	---	---	---	---	0.0006	---	---
Bi	mg/L	---	---	---	---	< 0.00001	---	---	---	---	< 0.00001	---	---
Ca	mg/L	---	---	---	---	15.2	---	---	---	---	15.5	---	---
Cd	mg/L	---	---	---	---	0.000360	---	---	---	---	0.000296	---	---
Co	mg/L	---	---	---	---	0.0214	---	---	---	---	0.0220	---	---
Cr	mg/L	---	---	---	---	0.0349	---	---	---	---	0.0455	---	---
Cu	mg/L	---	---	---	---	7.50	---	---	---	---	7.14	---	---
Fe	mg/L	---	---	---	---	2.21	---	---	---	---	3.45	---	---
K	mg/L	---	---	---	---	0.884	---	---	---	---	0.884	---	---
Li	mg/L	---	---	---	---	< 0.001	---	---	---	---	0.001	---	---
Mg	mg/L	---	---	---	---	1.09	---	---	---	---	1.21	---	---
Mn	mg/L	---	---	---	---	0.0759	---	---	---	---	0.0691	---	---
Mo	mg/L	---	---	---	---	0.00003	---	---	---	---	< 0.00001	---	---
Na	mg/L	---	---	---	---	0.11	---	---	---	---	0.11	---	---
Ni	mg/L	---	---	---	---	0.0730	---	---	---	---	0.0808	---	---
Pb	mg/L	---	---	---	---	0.00032	---	---	---	---	0.00004	---	---
Sb	mg/L	---	---	---	---	< 0.0002	---	---	---	---	< 0.0002	---	---
Se	mg/L	---	---	---	---	< 0.001	---	---	---	---	< 0.001	---	---
Si	mg/L	---	---	---	---	4.90	---	---	---	---	4.17	---	---
Sn	mg/L	---	---	---	---	0.00062	---	---	---	---	0.00051	---	---
Sr	mg/L	---	---	---	---	0.0101	---	---	---	---	0.0096	---	---
Ti	mg/L	---	---	---	---	0.0003	---	---	---	---	0.0008	---	---
Tl	mg/L	---	---	---	---	< 0.0002	---	---	---	---	< 0.0002	---	---
U	mg/L	---	---	---	---	0.000585	---	---	---	---	0.000947	---	---
V	mg/L	---	---	---	---	< 0.00003	---	---	---	---	< 0.00003	---	---
W	mg/L	---	---	---	---	< 0.00003	---	---	---	---	< 0.00003	---	---
Y	mg/L	---	---	---	---	0.0324	---	---	---	---	0.0422	---	---
Zn	mg/L	---	---	---	---	0.127	---	---	---	---	0.112	---	---

Test Specimen

Sample	Weight (
Whole Tls	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	83	84	85	86	87	88	89	90	91	92	93	94
LIMS		10036-JAN11	10065-JAN11	10094-JAN11	10006-FEB11	10036-FEB11	10065-FEB11	10097-FEB11	10006-MAR11	10036-MAR11	10070-MAR11	10102-MAR11	10222-MAR11
Hum Cell Leachate Vol	mLs	896	972	874	949	992	868	897	1000	978	882	997	985
pH	units	3.33	3.49	3.49	3.34	3.39	3.42	3.30	3.44	3.45	3.29	3.41	3.40
Alkalinity	mg/L as $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Acidity	mg/L as $CaCO_3$	56	58	55	66	59	46	57	52	51	59	57	52
Conductivity	µS/cm	324	331	317	374	331	239	330	284	231	276	249	303
SO_4	mg/L	83	94	81	96	96	70	81	75	73	79	68	74
Hg	mg/L	---	---	< 0.0001	---	---	---	---	< 0.0001	---	---	---	---
Ag	mg/L	---	---	< 0.00001	---	---	---	---	0.00002	---	---	---	---
Al	mg/L	---	---	2.45	---	---	---	---	2.20	---	---	---	---
As	mg/L	---	---	0.0002	---	---	---	---	0.0004	---	---	---	---
Ba	mg/L	---	---	0.00262	---	---	---	---	0.00292	---	---	---	---
Be	mg/L	---	---	0.00034	---	---	---	---	0.00031	---	---	---	---
B	mg/L	---	---	0.0004	---	---	---	---	0.0008	---	---	---	---
Bi	mg/L	---	---	< 0.00001	---	---	---	---	< 0.00001	---	---	---	---
Ca	mg/L	---	---	12.3	---	---	---	---	9.93	---	---	---	---
Cd	mg/L	---	---	0.000251	---	---	---	---	0.000415	---	---	---	---
Co	mg/L	---	---	0.0200	---	---	---	---	0.0178	---	---	---	---
Cr	mg/L	---	---	0.0502	---	---	---	---	0.0493	---	---	---	---
Cu	mg/L	---	---	5.45	---	---	---	---	3.70	---	---	---	---
Fe	mg/L	---	---	4.49	---	---	---	---	5.04	---	---	---	---
K	mg/L	---	---	0.874	---	---	---	---	0.854	---	---	---	---
Li	mg/L	---	---	< 0.001	---	---	---	---	< 0.001	---	---	---	---
Mg	mg/L	---	---	1.05	---	---	---	---	1.05	---	---	---	---
Mn	mg/L	---	---	0.0548	---	---	---	---	0.0464	---	---	---	---
Mo	mg/L	---	---	0.00001	---	---	---	---	< 0.00001	---	---	---	---
Na	mg/L	---	---	0.07	---	---	---	---	0.07	---	---	---	---
Ni	mg/L	---	---	0.0663	---	---	---	---	0.0566	---	---	---	---
Pb	mg/L	---	---	0.00072	---	---	---	---	0.00020	---	---	---	---
Sb	mg/L	---	---	< 0.0002	---	---	---	---	< 0.0002	---	---	---	---
Se	mg/L	---	---	< 0.001	---	---	---	---	< 0.001	---	---	---	---
Si	mg/L	---	---	4.37	---	---	---	---	4.61	---	---	---	---
Sn	mg/L	---	---	0.00047	---	---	---	---	0.00096	---	---	---	---
Sr	mg/L	---	---	0.0082	---	---	---	---	0.0087	---	---	---	---
Ti	mg/L	---	---	0.0005	---	---	---	---	0.0006	---	---	---	---
Tl	mg/L	---	---	< 0.0002	---	---	---	---	0.00004	---	---	---	---
U	mg/L	---	---	0.00113	---	---	---	---	0.00109	---	---	---	---
V	mg/L	---	---	< 0.00003	---	---	---	---	0.00010	---	---	---	---
W	mg/L	---	---	< 0.00003	---	---	---	---	< 0.00003	---	---	---	---
Y	mg/L	---	---	0.0386	---	---	---	---	0.0343	---	---	---	---
Zn	mg/L	---	---	0.084	---	---	---	---	0.067	---	---	---	---

Test Specimen

Sample	Weight (
Whole Tls	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	95	96	97	98	99	100
LIMS		10010-APR11	10039-APR11	10128-APR11	11054-APR11	10049-MAY11	10067-MAY11
Hum Cell Leachate Vol	mLs	960	993	989	987	991	993
pH	units	3.42	3.35	3.41	3.43	3.38	3.39
Alkalinity	mg/L as $CaCO_3$	<2	<2	<2	<2	<2	<2
Acidity	mg/L as $CaCO_3$	49	55	52	48	54	48
Conductivity	µS/cm	269	235	217	219	240	209
SO_4	mg/L	71	73	68	63	67	62
Hg	mg/L	< 0.0001	---	---	---	---	< 0.0001
Ag	mg/L	0.00002	---	---	---	---	< 0.00001
Al	mg/L	1.89	---	---	---	---	1.56
As	mg/L	< 0.0002	---	---	---	---	0.0002
Ba	mg/L	0.00291	---	---	---	---	0.00324
Be	mg/L	0.00022	---	---	---	---	0.00017
B	mg/L	0.0004	---	---	---	---	0.0004
Bi	mg/L	< 0.00001	---	---	---	---	< 0.00001
Ca	mg/L	6.74	---	---	---	---	4.74
Cd	mg/L	0.000152	---	---	---	---	0.000273
Co	mg/L	0.0155	---	---	---	---	0.0147
Cr	mg/L	0.0467	---	---	---	---	0.0502
Cu	mg/L	2.68	---	---	---	---	2.15
Fe	mg/L	5.82	---	---	---	---	7.05
K	mg/L	0.755	---	---	---	---	0.741
Li	mg/L	< 0.001	---	---	---	---	< 0.001
Mg	mg/L	0.964	---	---	---	---	0.863
Mn	mg/L	0.0387	---	---	---	---	0.0316
Mo	mg/L	0.00001	---	---	---	---	< 0.00001
Na	mg/L	0.04	---	---	---	---	0.03
Ni	mg/L	0.0422	---	---	---	---	0.0307
Pb	mg/L	0.00007	---	---	---	---	0.00010
Sb	mg/L	< 0.0002	---	---	---	---	< 0.0002
Se	mg/L	< 0.001	---	---	---	---	< 0.001
Si	mg/L	3.94	---	---	---	---	3.73
Sn	mg/L	0.00074	---	---	---	---	0.00055
Sr	mg/L	0.0076	---	---	---	---	0.0067
Ti	mg/L	0.0003	---	---	---	---	0.0006
Tl	mg/L	0.00004	---	---	---	---	< 0.00002
U	mg/L	0.00129	---	---	---	---	0.00105
V	mg/L	0.00006	---	---	---	---	0.00015
W	mg/L	< 0.00003	---	---	---	---	< 0.00003
Y	mg/L	0.0284	---	---	---	---	0.0210
Zn	mg/L	0.047	---	---	---	---	0.040

TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Test Specimen

Sample	Weight (g)
Whole Tls	1000

Summary of ABA Test Data

Parameter	Units	Reference No.: 11249-MAY09
Sulphur (S)	%	4.25
Sulphide ($S^{=}$)	%	4.02
NP	t $CaCO_3$/1000 t	4.8
CO_3 NP	t $CaCO_3$/1000 t	0.45

Leachate Paremeters Measured | ***Acid Generation*** [1] | ***Acid Neutralization*** [1]

Weekly Leach No.	Volume Collected mL	pH units	Acidity $CaCO_3$ eq. mg/L	Alkalinity $CaCO_3$ eq. mg/L	Conductivity µmhos/cm	SO_4 mg/L	SO_4 Production Rate g/t/wk	Cumulative SO_4 Production g/t	Weekly S= Depletion %	Cumulative S= Depletion %	NP Consumption $CaCO_3$, g/t/wk	Cumulative NP Depletion %	Cumulative CO_3 NP Depletion %
0	449	7.33	<2	9	326	140	62.9	62.9	0.05	0.05	65.48	1.36	14.55
1	981	6.80	<2	11	385	160	157.0	219.8	0.13	0.18	163.50	4.77	50.88
2	989	6.68	<2	7	333	140	138.5	358.3	0.11	0.30	144.23	7.78	82.94
3	990	6.96	<2	7	340	150	148.5	506.8	0.12	0.42	154.69	11.00	117.31
4	985	6.56	<2	5	279	120	118.2	625.0	0.10	0.52	123.13	13.56	144.67
5	993	6.50	<2	5	106	130	129.1	754.1	0.11	0.63	134.47	16.36	174.55
6	993	6.30	<2	3	266	120	119.2	873.2	0.10	0.72	124.13	18.95	202.14
7	985	6.13	2	3	281	120	118.2	991.4	0.10	0.82	123.13	21.52	229.50
8	989	5.93	<2	<2	266	110	108.8	1100.2	0.09	0.91	113.32	23.88	254.68
9	993	6.11	6	2	319	140	139.0	1239.2	0.12	1.03	144.81	26.89	286.86
10	989	5.94	4	<2	290	140	138.5	1377.7	0.11	1.14	144.23	29.90	318.91
11	980	5.94	2	<2	291	130	127.4	1505.1	0.11	1.25	132.71	32.66	348.40
12	1003	5.46	6	<2	266	120	120.4	1625.5	0.10	1.35	125.38	35.27	376.26
13	952	5.66	3	<2	218	97	92.3	1717.8	0.08	1.42	96.19	37.28	397.64
14	870	4.90	9	<2	164	74	64.4	1782.2	0.05	1.48	67.06	38.68	412.54
15	963	5.08	8	<2	208	100	96.3	1878.5	0.08	1.56	100.31	40.77	434.83
16	881	5.05	9	<2	172	71	62.6	1941.0	0.05	1.61	65.16	42.12	449.31
17	889	4.82	11	<2	178	71	63.1	2004.2	0.05	1.66	65.75	43.49	463.92
18	1004	4.74	17	<2	240	100	100.4	2104.6	0.08	1.75	104.58	45.67	487.17
19	879	4.88	14	<2	164	71	62.4	2167.0	0.05	1.80	65.01	47.03	501.61
20	938	4.50	25	<2	219	96	90.0	2257.0	0.07	1.87	93.80	48.98	522.46

** Initial Week 0 leachate may included soluble sulphate, and may not indicate oxidation of sulphide in the sample material has occurred.*

[1] *Calculated values*

Summary - Weeks 0 to 20

Maximum Value	7.33	25	11	385	160	157.0	-	0.13	-	164	-	-
Minimum Value	4.50	<2	<2	106	71	62.4	-	0.05	-	65.0	-	-
Average Value	5.24	6	4	253	114	107.5	-	0.09	-	111.95	-	-

TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Test Specimen

Sample	Weight (g)
Whole Tls	1000

Changes to Head Sample after 20 Weeks [1]

Parameter	Units	Reference No.: 11249-MAY09
Sulphide ($S^{=}$) Remaining	%	3.94
NP Remaining	t $CaCO_3$/1000 t	2.4
CO_3 NP Remaining	t $CaCO_3$/1000 t	-1.9

Leachate Paremeters Measured | ***Acid Generation*** [1] | ***Acid Neutralization*** [1]

Weekly Leach No.	Volume Collected mL	pH units	Acidity $CaCO_3$ eq. mg/L	Alkalinity $CaCO_3$ eq. mg/L	Conductivity µmhos/cm	SO_4 mg/L	SO_4 Production Rate g/t/wk	Cumulative SO_4 Production g/t	Weekly S= Depletion %	Cumulative S= Depletion %	NP Consumption $CaCO_3$, g/t/wk	Cumulative NP Depletion %	Cumulative CO_3 NP Depletion %
21	869	4.60	26	<2	184	80	69.5	2326.5	0.06	1.93	72.42	50.49	538.55
22	857	4.59	29	<2	179	80	68.6	2395.1	0.06	1.99	71.42	51.98	554.42
23	881	4.63	34	<2	196	100	88.1	2483.2	0.07	2.06	91.77	53.89	574.81
24	868	4.49	34	<2	197	82	71.2	2554.4	0.06	2.12	74.14	55.43	591.29
25	907	4.59	42	<2	207	94	85.3	2639.6	0.07	2.19	88.81	57.28	611.02
26	874	4.96	38	<2	183	75	65.6	2705.2	0.05	2.24	68.28	58.71	626.20
27	874	4.39	43	<2	199	79	69.0	2774.2	0.06	2.30	71.92	60.20	642.18
28	891	4.45	51	<2	205	93	82.9	2857.1	0.07	2.37	86.32	62.00	661.36
29	849	4.34	49	<2	203	83	70.5	2927.6	0.06	2.43	73.40	63.53	677.67
30	838	4.45	48	<2	174	76	63.7	2991.2	0.05	2.48	66.34	64.91	692.42
31	868	4.25	53	<2	207	83	72.0	3063.3	0.06	2.54	75.05	66.48	709.09
32	883	4.31	52	<2	199	78	68.9	3132.2	0.06	2.60	71.74	67.97	725.04
33	948	4.27	75	<2	279	120	113.8	3245.9	0.09	2.69	118.50	70.44	751.37
34	867	4.88	38	<2	180	74	64.2	3310.1	0.05	2.74	66.83	71.83	766.22
35	869	4.46	48	<2	188	70	60.8	3370.9	0.05	2.80	63.36	73.15	780.30
36	861	4.30	57	<2	203	80	68.9	3439.8	0.06	2.85	71.75	74.65	796.25
37	952	4.04	81	<2	284	120	114.2	3554.0	0.09	2.95	119.00	77.13	822.69
38	986	3.77	81	<2	288	120	118.3	3672.3	0.10	3.05	123.25	79.69	850.08
39	842	4.23	57	<2	180	64	53.9	3726.2	0.04	3.09	56.13	80.86	862.55
40	844	4.10	53	<2	195	72	60.8	3787.0	0.05	3.14	63.30	82.18	876.62

[1] *Calculated values*

Summary - Weeks 0 to 40

Maximum Value	7.33	81	11	385	160	157.0	-	0.10	-	164	-	-
Minimum Value	3.77	<2	<2	106	64	53.9	-	0.04	-	56.1	-	-
Average Value	4.58	27	3	230	101	92.4	-	0.08	-	96.21	-	-

TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Test Specimen

Sample	Weight (g)
Whole Tls	1000

Changes to Head Sample after 40 Weeks [1]

Parameter	Units	Reference No.: 11249-MAY09
Sulphide ($S^{=}$) Remaining	%	3.89
NP Remaining	t $CaCO_3$/1000 t	0.9
CO_3 NP Remaining	t $CaCO_3$/1000 t	-3.5

Leachate Paremeters Measured

Weekly Leach No.	Volume Collected mL	pH units	Acidity $CaCO_3$ eq. mg/L	Alkalinity $CaCO_3$ eq. mg/L	Conductivity µmhos/cm	SO_4 mg/L
41	850	4.22	49	<2	179	72
42	959	3.99	75	<2	258	94
43	927	3.97	61	<2	226	91
44	824	4.07	46	<2	185	67
45	863	3.94	50	<2	200	73
46	835	3.94	51	<2	174	64
47	904	3.81	65	<2	258	89
48	915	3.85	54	<2	219	73
49	873	3.86	53	<2	211	69
50	946	3.80	65	<2	260	86
51	870	3.83	59	<2	243	84
52	874	3.75	59	<2	246	92
53	872	3.72	58	<2	241	85
54	867	3.75	63	<2	247	83
55	884	3.73	61	<2	266	84
56	949	3.63	65	<2	291	96
57	876	3.62	55	<2	259	89
58	942	3.58	67	<2	293	100
59	868	3.63	55	<2	256	83
60	992	3.55	72	<2	331	110

Acid Generation [1]

SO_4 Production Rate g/t/wk	Cumulative SO_4 Production g/t	Weekly S= Depletion %	Cumulative S= Depletion %
61.2	3848.2	0.05	3.19
90.1	3938.3	0.07	3.27
84.4	4022.7	0.07	3.34
55.2	4077.9	0.05	3.38
63.0	4140.9	0.05	3.43
53.4	4194.4	0.04	3.48
80.5	4274.8	0.07	3.54
66.8	4341.6	0.06	3.60
60.2	4401.8	0.05	3.65
81.4	4483.2	0.07	3.72
73.1	4556.3	0.06	3.78
80.4	4636.7	0.07	3.84
74.1	4710.8	0.06	3.91
72.0	4782.8	0.06	3.97
74.3	4857.0	0.06	4.03
91.1	4948.1	0.08	4.10
78.0	5026.1	0.06	4.17
94.2	5120.3	0.08	4.25
72.0	5192.3	0.06	4.31
109.1	5301.5	0.09	4.40

Acid Neutralization [1]

NP Consumption $CaCO_3$, g/t/wk	Cumulative NP Depletion %	Cumulative CO_3 NP Depletion %
63.75	83.51	890.79
93.90	85.47	911.65
87.87	87.30	931.18
57.51	88.50	943.96
65.62	89.86	958.54
55.67	91.02	970.91
83.81	92.77	989.54
69.58	94.22	1005.00
62.75	95.53	1018.94
84.75	97.29	1037.78
76.13	98.88	1054.69
83.76	100.62	1073.31
77.21	102.23	1090.46
74.96	103.79	1107.12
77.35	105.40	1124.31
94.90	107.38	1145.40
81.21	109.07	1163.45
98.13	111.12	1185.25
75.05	112.68	1201.93
113.67	115.05	1227.19

[1] *Calculated values*

Summary - Weeks 0 to 60

Maximum Value	7.33	81	11	385	160	157.0	-	0.10	-	163.50	-	-
Minimum Value	3.55	<2	<2	106	64	53.4	-	0.04	-	55.67	-	-
Average Value	4.14	38	3	234	95	86.9	-	0.07	-	90.53	-	-

TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Test Specimen

Sample	Weight (g)
Whole Tls	1000

Changes to Head Sample after 60 Weeks [1]

Parameter	Units	Reference No.: 11249-MAY09
Sulphide ($S^{=}$) Remaining	%	3.84
NP Remaining	t $CaCO_3$/1000 t	-0.7
CO_3 NP Remaining	t $CaCO_3$/1000 t	-5.1

Leachate Paremeters Measured

Weekly Leach No.	Volume Collected mL	pH units	Acidity $CaCO_3$ eq. mg/L	Alkalinity $CaCO_3$ eq. mg/L	Conductivity µmhos/cm	SO_4 mg/L
61	883	3.58	53	<2	259	85
62	939	3.55	64	<2	306	95
63	988	3.49	69	<2	326	100
64	991	3.43	69	<2	333	110
65	989	3.53	64	<2	317	99
66	893	3.62	43	<2	245	69
67	908	3.59	42	<2	228	69
68	897	3.63	47	<2	245	70
69	990	3.57	58	<2	313	100
70	993	3.60	56	<2	288	90
71	957	3.61	51	<2	273	86
72	904	3.61	44	<2	241	65
73	982	3.57	52	<2	295	90
74	875	3.93	32	<2	206	69
75	945	3.51	47	<2	284	81
76	859	3.57	38	<2	243	66
77	876	3.57	39	<2	228	67
78	900	3.54	50	<2	267	89
79	891	3.51	49	<2	318	86
80	890	3.43	53	<2	322	92

Acid Generation [1]

SO_4 Production Rate g/t/wk	Cumulative SO_4 Production g/t	Weekly S= Depletion %	Cumulative S= Depletion %
75.1	5376.5	0.06	4.46
89.2	5465.7	0.07	4.53
98.8	5564.5	0.08	4.61
109.0	5673.5	0.09	4.70
97.9	5771.4	0.08	4.79
61.6	5833.1	0.05	4.84
62.7	5895.7	0.05	4.89
62.8	5958.5	0.05	4.94
99.0	6057.5	0.08	5.02
89.4	6146.9	0.07	5.10
82.3	6229.2	0.07	5.17
58.8	6287.9	0.05	5.21
88.4	6376.3	0.07	5.29
60.4	6436.7	0.05	5.34
76.5	6513.2	0.06	5.40
56.7	6569.9	0.05	5.45
58.7	6628.6	0.05	5.50
80.1	6708.7	0.07	5.56
76.6	6785.3	0.06	5.63
81.9	6867.2	0.07	5.69

Acid Neutralization [1]

NP Consumption $CaCO_3$, g/t/wk	Cumulative NP Depletion %	Cumulative CO_3 NP Depletion %
78.18	116.68	1244.56
92.92	118.61	1265.21
102.92	120.76	1288.08
113.55	123.12	1313.32
101.99	125.25	1335.98
64.18	126.59	1350.24
65.26	127.94	1364.75
65.41	129.31	1379.28
103.13	131.46	1402.20
93.09	133.40	1422.88
85.73	135.18	1441.94
61.21	136.46	1455.54
92.06	138.37	1476.00
62.89	139.68	1489.97
79.73	141.35	1507.69
59.06	142.58	1520.81
61.14	143.85	1534.40
83.44	145.59	1552.94
79.82	147.25	1570.68
85.29	149.03	1589.63

[1] *Calculated values*

Summary - Weeks 0 to 80

Maximum Value	7.33	81	11	385	160	157.0	-	0.10	-	164	-	-
Minimum Value	3.43	<2	<2	106	64	53.4	-	0.04	-	55.7	-	-
Average Value	3.91	41	2	245	92	85	-	0.07	-	88.31	-	-

TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Test Specimen

Sample	Weight (g)
Whole Tls	1000

Changes to Head Sample after 80 Weeks [1]

Parameter	Units	Reference No.: 11249-MAY09
Sulphide ($S^{=}$) Remaining	%	3.79
NP Remaining	t $CaCO_3$/1000 t	-2.4
CO_3 NP Remaining	t $CaCO_3$/1000 t	-6.7

Leachate Paremeters Measured

Weekly Leach No.	Volume Collected mL	pH units	Acidity $CaCO_3$ eq. mg/L	Alkalinity $CaCO_3$ eq. mg/L	Conductivity µmhos/cm	SO_4 mg/L
81	870	3.42	58	<2	341	96
82	963	3.32	61	<2	359	97
83	896	3.33	56	<2	324	83
84	972	3.49	58	<2	331	94
85	874	3.49	55	<2	317	81
86	949	3.34	66	<2	374	96
87	992	3.39	59	<2	331	96
88	868	3.42	46	<2	239	70
89	897	3.30	57	<2	330	81
90	1000	3.44	52	<2	284	75
91	978	3.45	51	<2	231	73
92	882	3.29	59	<2	276	79
93	997	3.41	57	<2	249	68
94	985	3.40	52	<2	303	74
95	960	3.42	49	<2	269	71
96	993	3.35	55	<2	235	73
97	989	3.41	52	<2	217	68
98	987	3.43	48	<2	219	63
99	991	3.38	54	<2	240	67
100	993	3.39	48	<2	209	62

Acid Generation [1]

SO_4 Production Rate g/t/wk	Cumulative SO_4 Production g/t	Weekly S= Depletion %	Cumulative S= Depletion %
83.5	6950.7	0.07	5.76
93.4	7044.1	0.08	5.84
74.4	7118.5	0.06	5.90
91.4	7209.9	0.08	5.98
70.8	7280.7	0.06	6.04
91.1	7371.8	0.08	6.11
95.2	7467.0	0.08	6.19
60.8	7527.8	0.05	6.24
72.7	7600.4	0.06	6.30
75.0	7675.4	0.06	6.36
71.4	7746.8	0.06	6.42
69.7	7816.5	0.06	6.48
67.8	7884.3	0.06	6.54
72.9	7957.2	0.06	6.60
68.2	8025.3	0.06	6.65
72.5	8097.8	0.06	6.71
67.3	8165.1	0.06	6.77
62.2	8227.3	0.05	6.82
66.4	8293.7	0.06	6.88
61.6	8355.2	0.05	6.93

Acid Neutralization [1]

NP Consumption $CaCO_3$, g/t/wk	Cumulative NP Depletion %	Cumulative CO_3 NP Depletion %
87.00	150.84	1608.97
97.30	152.87	1630.59
77.47	154.48	1647.80
95.18	156.46	1668.95
73.74	158.00	1685.34
94.90	159.98	1706.43
99.20	162.04	1728.48
63.29	163.36	1742.54
75.68	164.94	1759.36
78.13	166.57	1776.72
74.37	168.12	1793.25
72.58	169.63	1809.38
70.62	171.10	1825.07
75.93	172.68	1841.94
71.00	174.16	1857.72
75.51	175.73	1874.50
70.05	177.19	1890.07
64.77	178.54	1904.46
69.16	179.98	1919.83
64.13	181.32	1934.08

[1] *Calculated values*

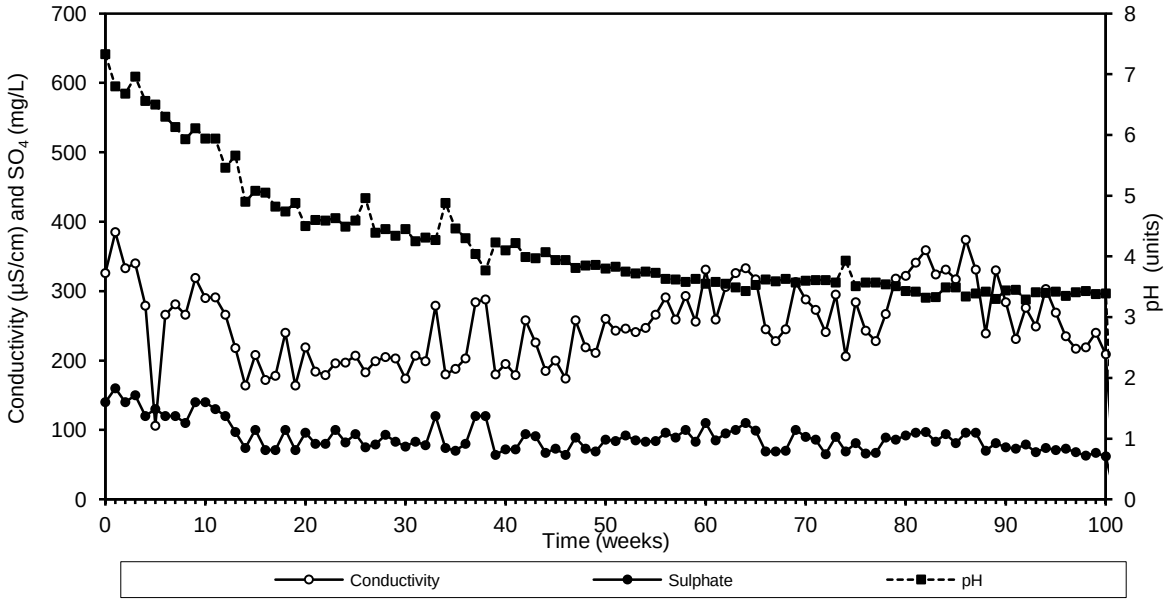
Summary - Weeks 0 to 100

	pH	Acidity $CaCO_3$ eq. mg/L	Alkalinity $CaCO_3$ eq. mg/L	Conductivity µmhos/cm	SO_4 mg/L	SO_4 Production Rate g/t/wk	Cumulative SO_4 Production g/t	Weekly S= Depletion %	Cumulative S= Depletion %	NP Consumption $CaCO_3$, g/t/wk	Cumulative NP Depletion %	Cumulative CO_3 NP Depletion %
Maximum Value	7.33	81	11	385	160	157.0	-	0.10	-	164	-	-
Minimum Value	3.29	<2	<2	106	62	53.4	-	0.04	-	55.7	-	-
Average Value	3.75	44	2	252	90	82.7	-	0.07	-	86.17	-	-

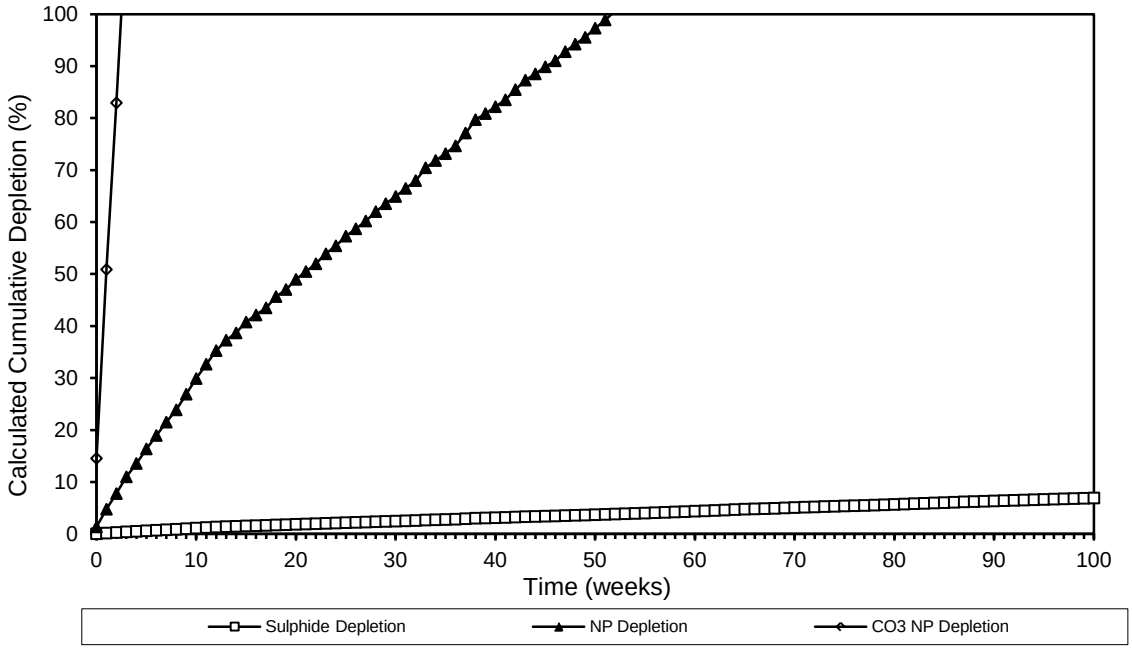
TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Conductivity, Sulphate, and pH in Weekly Humidity Cell Leachate - Whole Tls



Cumulative Sulphide and NP Depletion Whole Tls

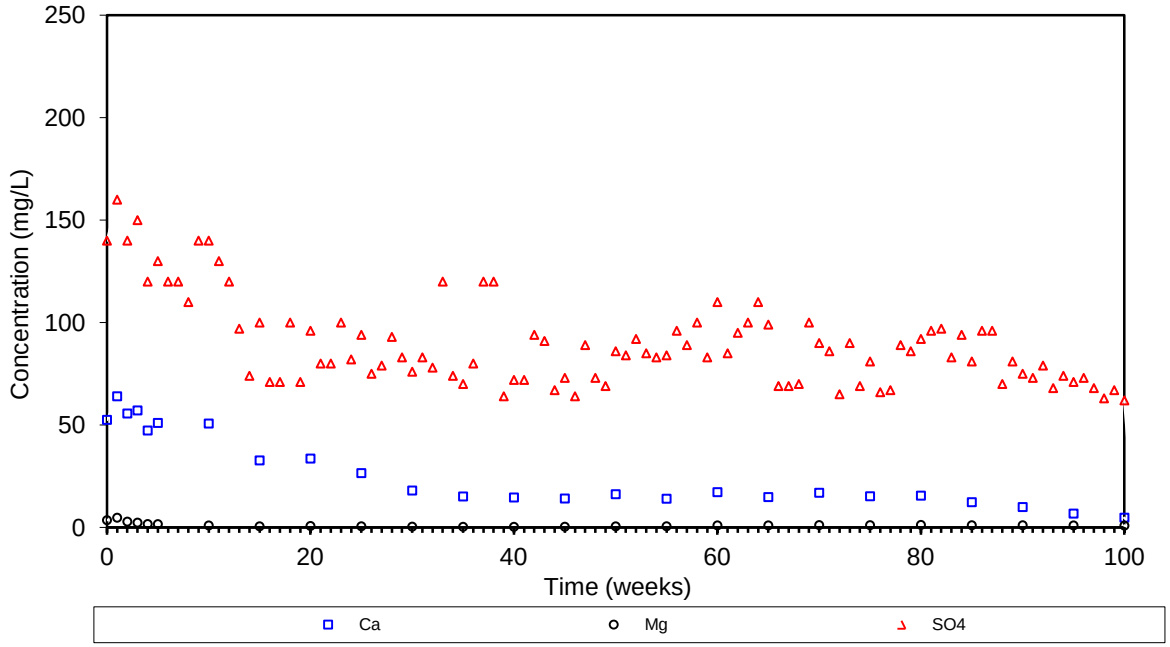


Note: NP depletion calculated based on sulphate assay.

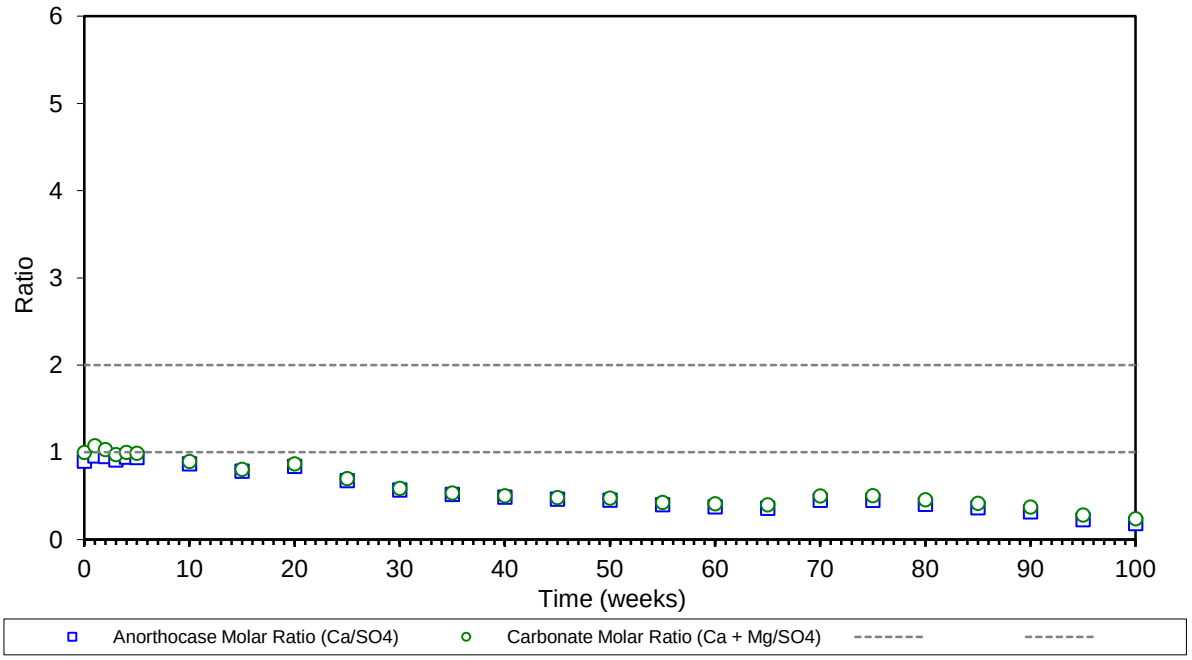
TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Selected Parameters in Weekly Humidity Cell Leachate Whole Tls



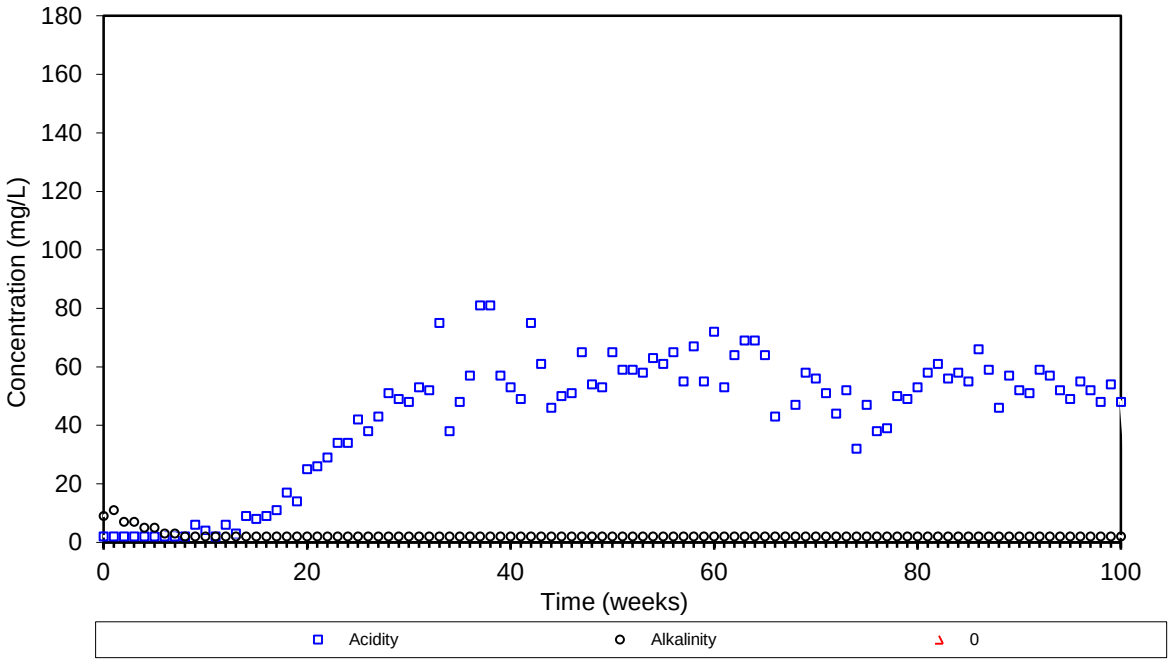
Carbonate (Ca + Mg/SO$_4$) and Anorthoclase (Ca/SO$_4$) Molar Ratios Whole Tls



TEST REPORT

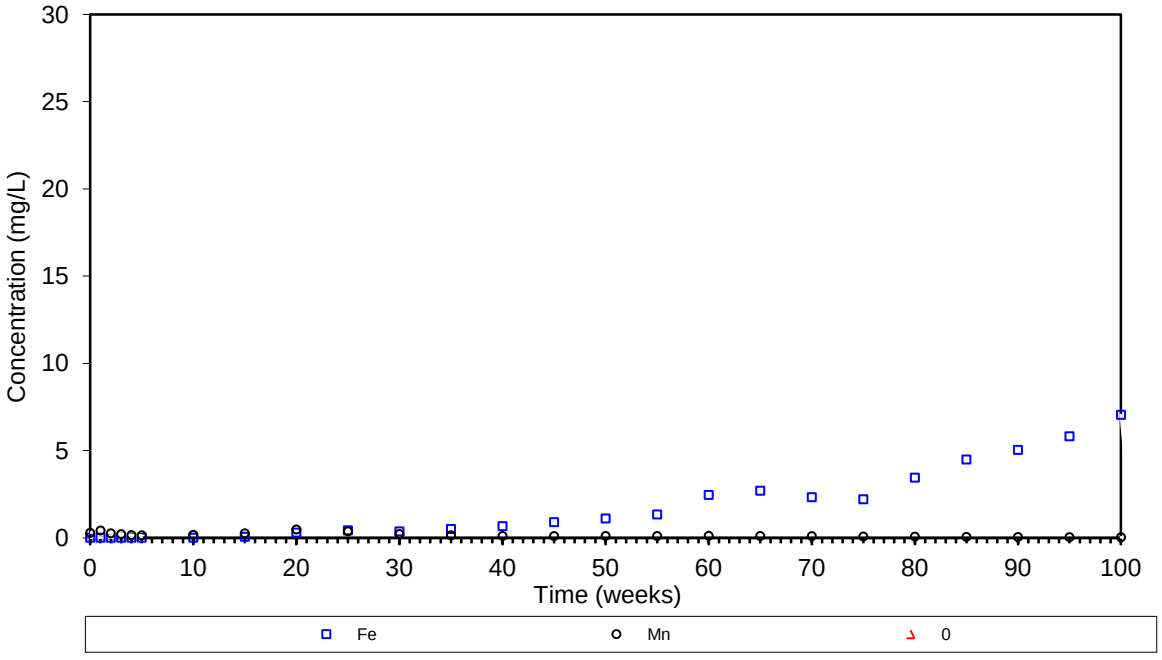
Humidity Cell Test (ASTM D 5744-96)

Selected Parameters in Weekly Humidity Cell Leachate Whole Tls



Note: Acidity and alkalinity have detection limit of 2 mg/L.

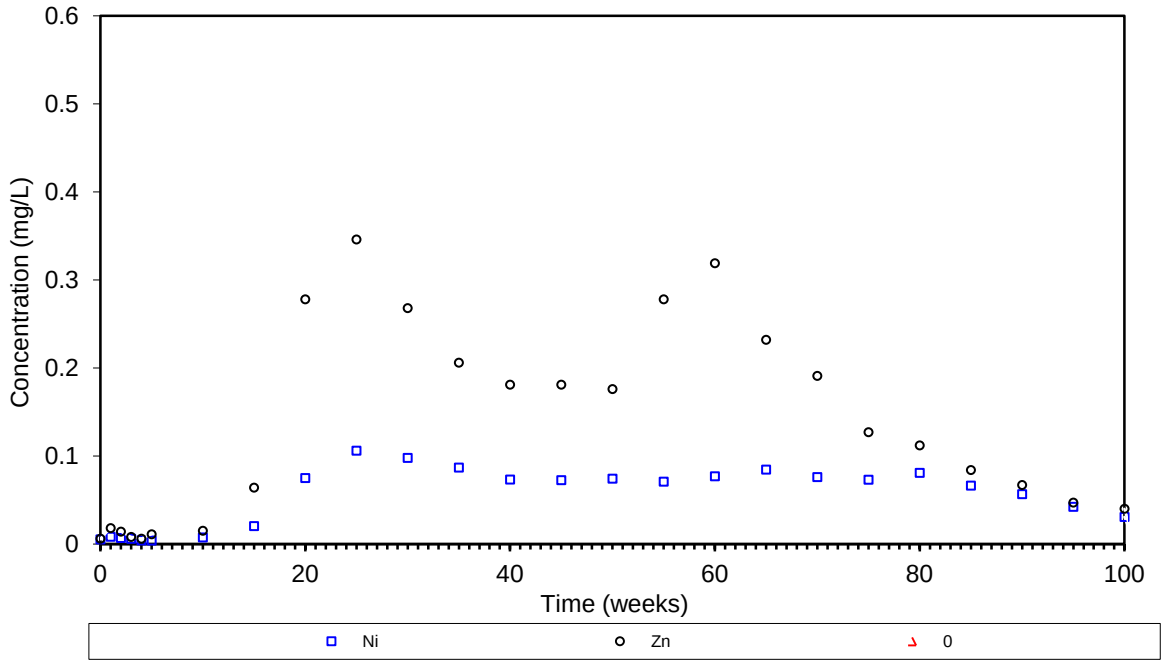
Selected Parameters in Weekly Humidity Cell Leachate Whole Tls



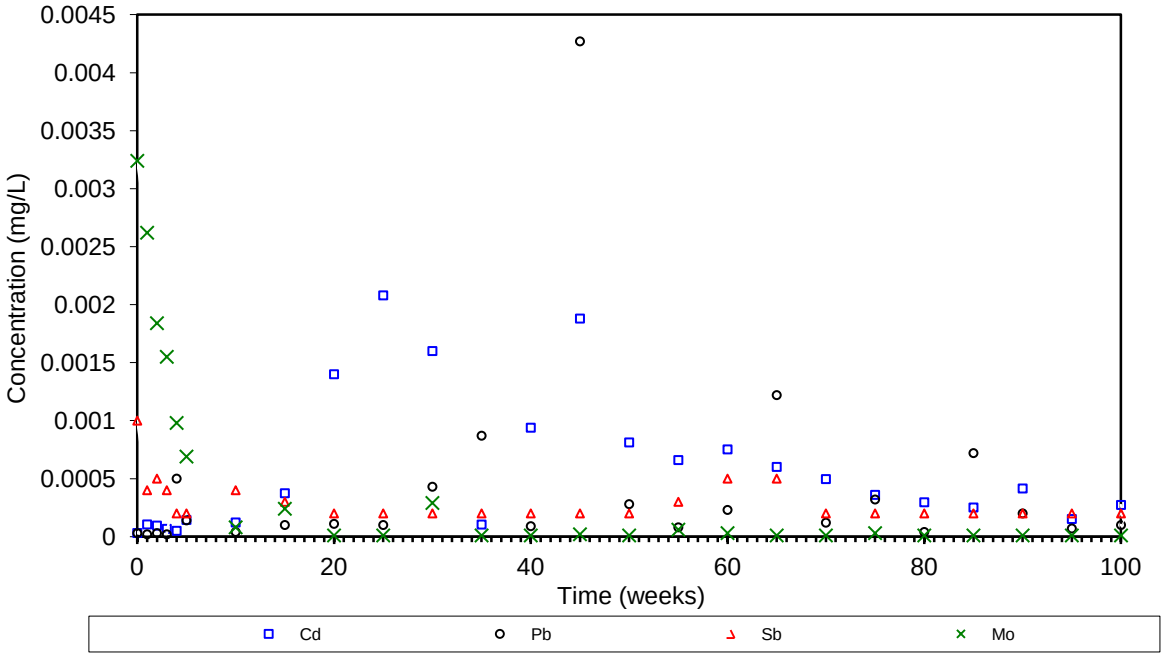
TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Selected Parameters in Weekly Humidity Cell Leachate Whole Tls



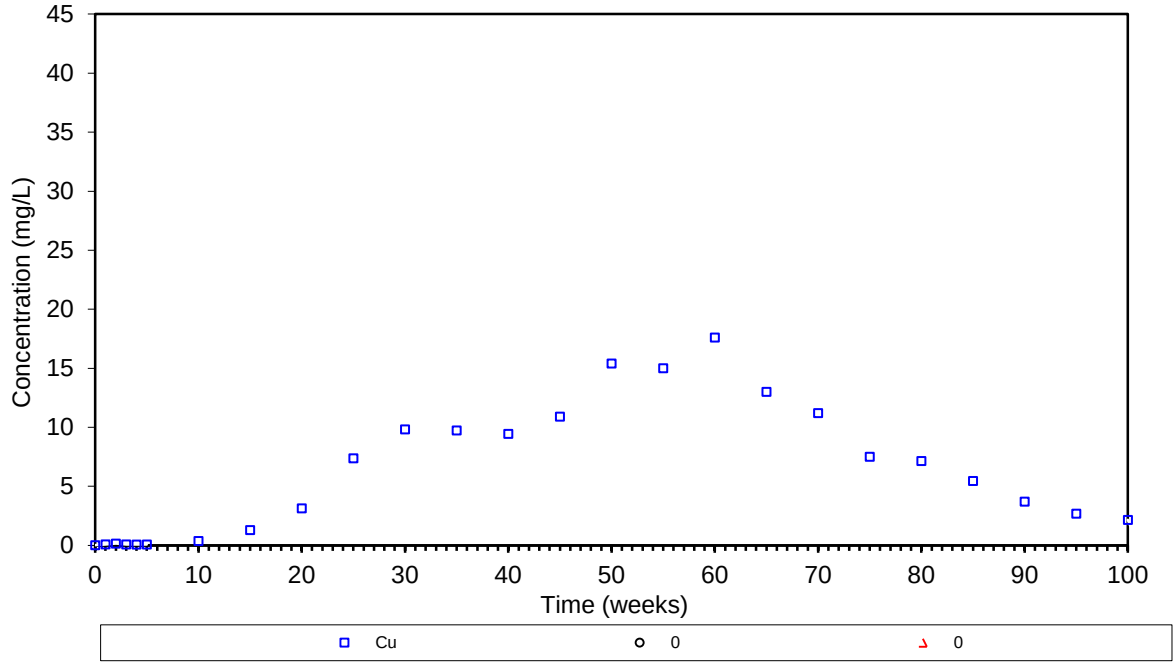
Selected Parameters in Weekly Humidity Cell Leachate Whole Tls



TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Selected Parameters in Weekly Humidity Cell Leachate Whole Tls



Test Specimen

Sample	Weight (g)
Cyclone U/F - Untreated	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	0	1	2	3	4	5	6	7	8	9
LIMS		11105-JUN09	11106-JUN09	11107-JUN09	11143-JUN09	10009-JUL09	10027-JUL09	10046-JUL09	11076-JUL09	10008-AUG09	10040-AUG09
Hum Cell Leachate Vol	mLs	516	974	987	983	988	965	994	995	971	992
pH	units	7.15	7.41	7.39	7.52	7.33	7.26	7.05	6.94	7.26	7.29
Alkalinity	mg/L as $CaCO_3$	5	16	15	14	14	13	13	12	12	10
Acidity	mg/L as $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Conductivity	µS/cm	265	92	62	55	49	12	48	45	42	36
SO_4	mg/L	100	22	8.8	7.6	7.4	7.0	6.0	6.2	5.7	4.7
Hg	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	---	---	---	---
Ag	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	---	---	---	---
Al	mg/L	0.04	0.02	0.01	< 0.01	< 0.01	< 0.01	---	---	---	---
As	mg/L	0.0013	0.0006	0.0007	0.0008	0.0005	0.0003	---	---	---	---
Ba	mg/L	0.0187	0.0148	0.0223	0.0296	0.0364	0.0489	---	---	---	---
Be	mg/L	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	---	---	---	---
B	mg/L	0.0099	0.0103	0.0050	0.0030	0.0024	0.0022	---	---	---	---
Bi	mg/L	0.00003	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	---	---	---	---
Ca	mg/L	32.3	13.2	9.55	8.00	7.81	8.08	---	---	---	---
Cd	mg/L	< 0.000003	< 0.000003	0.000018	0.000018	0.000012	0.000040	---	---	---	---
Co	mg/L	0.000573	0.000337	0.000237	0.000195	0.000194	0.000194	---	---	---	---
Cr	mg/L	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	---	---	---	---
Cu	mg/L	0.0138	0.0110	0.0092	0.0085	0.0087	0.0092	---	---	---	---
Fe	mg/L	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	---	---	---	---
K	mg/L	12.8	4.09	2.17	1.43	1.17	1.10	---	---	---	---
Li	mg/L	0.002	< 0.001	0.001	< 0.001	< 0.001	0.001	---	---	---	---
Mg	mg/L	3.00	0.946	0.569	0.416	0.362	0.330	---	---	---	---
Mn	mg/L	0.0431	0.0234	0.0185	0.0150	0.0150	0.0141	---	---	---	---
Mo	mg/L	0.0753	0.0503	0.0227	0.0152	0.0132	0.0114	---	---	---	---
Na	mg/L	5.63	0.59	0.10	0.04	0.02	0.03	---	---	---	---
Ni	mg/L	0.0005	0.0004	0.0003	0.0003	< 0.0001	0.0003	---	---	---	---
Pb	mg/L	0.00004	0.00002	< 0.00002	0.00004	0.00005	0.00016	---	---	---	---
Sb	mg/L	0.0037	0.0024	0.0020	0.0016	0.0014	0.0013	---	---	---	---
Se	mg/L	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	---	---	---	---
Si	mg/L	0.94	1.56	1.35	1.23	1.26	1.20	---	---	---	---
Sn	mg/L	0.0332	0.00971	0.00127	0.00083	0.00058	0.00054	---	---	---	---
Sr	mg/L	0.123	0.0708	0.0572	0.0510	0.0501	0.0518	---	---	---	---
Ti	mg/L	0.0005	0.0001	< 0.0001	0.0002	0.0002	0.0001	---	---	---	---
Tl	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	---	---	---	---
U	mg/L	0.000045	0.000007	0.000007	0.000005	< 0.000001	0.000006	---	---	---	---
V	mg/L	0.00028	0.00022	0.00019	0.00019	0.00018	0.00015	---	---	---	---
W	mg/L	0.00085	0.00228	0.00190	0.00156	0.00148	0.00132	---	---	---	---
Y	mg/L	0.000009	< 0.000001	0.000002	0.000003	< 0.000001	0.000001	---	---	---	---
Zn	mg/L	0.003	0.003	0.003	0.004	0.002	0.004	---	---	---	---

Test Specimen

Sample	Weight (g
Cyclone U/F - Untreated	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	10	11	12	13	14	15	16	17	18	19	20	21
LIMS		10166-AUG09	10183-AUG09	10006-SEP09	10023-SEP09	10040-SEP09	10155-SEP09	11062-SEP09	10018-OCT09	11051-OCT09	11061-OCT09	11170-OCT09	10011-NOV09
Hum Cell Leachate Vol	mLs	989	981	992	842	914	860	880	907	888	902	894	992
pH	units	6.99	6.93	6.55	6.91	6.69	6.98	7.07	6.87	6.94	6.91	6.60	6.76
Alkalinity	mg/L as $CaCO_3$	9	9	8	6	6	6	6	4	4	3	3	3
Acidity	mg/L as $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Conductivity	µS/cm	35	35	32	26	24	23	22	22	20	22	20	20
SO_4	mg/L	5.1	4.6	4.2	4.0	4.0	3.9	3.6	3.5	3.2	3.7	3.8	3.6
Hg	mg/L	< 0.0001	---	---	---	---	< 0.0001	---	---	---	---	< 0.0001	---
Ag	mg/L	< 0.00001	---	---	---	---	< 0.00001	---	---	---	---	< 0.00001	---
Al	mg/L	< 0.01	---	---	---	---	< 0.01	---	---	---	---	< 0.01	---
As	mg/L	0.0020	---	---	---	---	0.0003	---	---	---	---	< 0.0002	---
Ba	mg/L	0.100	---	---	---	---	0.0913	---	---	---	---	0.105	---
Be	mg/L	< 0.00002	---	---	---	---	< 0.00002	---	---	---	---	< 0.00002	---
B	mg/L	0.0010	---	---	---	---	0.0007	---	---	---	---	0.0006	---
Bi	mg/L	< 0.00001	---	---	---	---	< 0.00001	---	---	---	---	< 0.00001	---
Ca	mg/L	5.89	---	---	---	---	3.62	---	---	---	---	3.13	---
Cd	mg/L	0.000022	---	---	---	---	0.000022	---	---	---	---	0.000056	---
Co	mg/L	0.000285	---	---	---	---	0.000453	---	---	---	---	0.00109	---
Cr	mg/L	< 0.0005	---	---	---	---	< 0.0005	---	---	---	---	< 0.0005	---
Cu	mg/L	0.0158	---	---	---	---	0.0282	---	---	---	---	0.0503	---
Fe	mg/L	< 0.01	---	---	---	---	< 0.01	---	---	---	---	< 0.01	---
K	mg/L	0.65	---	---	---	---	0.39	---	---	---	---	0.37	---
Li	mg/L	< 0.001	---	---	---	---	< 0.001	---	---	---	---	< 0.001	---
Mg	mg/L	0.174	---	---	---	---	0.103	---	---	---	---	0.098	---
Mn	mg/L	0.0150	---	---	---	---	0.0148	---	---	---	---	0.0227	---
Mo	mg/L	0.00732	---	---	---	---	0.00486	---	---	---	---	0.00361	---
Na	mg/L	0.01	---	---	---	---	< 0.01	---	---	---	---	< 0.01	---
Ni	mg/L	0.0003	---	---	---	---	0.0004	---	---	---	---	0.0012	---
Pb	mg/L	0.00003	---	---	---	---	< 0.00002	---	---	---	---	< 0.00002	---
Sb	mg/L	0.0009	---	---	---	---	0.0004	---	---	---	---	< 0.0002	---
Se	mg/L	< 0.001	---	---	---	---	< 0.001	---	---	---	---	< 0.001	---
Si	mg/L	1.00	---	---	---	---	0.68	---	---	---	---	0.91	---
Sn	mg/L	0.00062	---	---	---	---	0.00055	---	---	---	---	0.00104	---
Sr	mg/L	0.0341	---	---	---	---	0.0178	---	---	---	---	0.0144	---
Ti	mg/L	< 0.0001	---	---	---	---	< 0.0001	---	---	---	---	< 0.0001	---
Tl	mg/L	< 0.0002	---	---	---	---	< 0.0002	---	---	---	---	< 0.0002	---
U	mg/L	< 0.000001	---	---	---	---	0.000029	---	---	---	---	< 0.000001	---
V	mg/L	0.00009	---	---	---	---	0.00006	---	---	---	---	< 0.00003	---
W	mg/L	0.00073	---	---	---	---	0.00031	---	---	---	---	0.00012	---
Y	mg/L	0.000003	---	---	---	---	0.000006	---	---	---	---	0.000003	---
Zn	mg/L	0.003	---	---	---	---	0.005	---	---	---	---	0.011	---

Test Specimen

Sample	Weight (g
Cyclone U/F - Untreated	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	22	23	24	25	26	27	28	29	30	31	32	33
LIMS		11047-NOV09	11128-NOV09	11149-NOV09	10007-DEC09	10032-DEC09	10057-DEC09	11205-DEC09	11238-DEC09	10008-JAN10	10032-JAN10	10058-JAN10	10085-JAN10
Hum Cell Leachate Vol	mLs	850	908	865	903	857	914	878	994	849	1000	977	931
pH	units	6.36	6.64	6.35	6.41	6.23	6.38	6.33	6.45	6.35	6.30	6.17	6.28
Alkalinity	mg/L as $CaCO_3$	<2	2	<2	<2	<2	<2	<2	<2	2	<2	<2	<2
Acidity	mg/L as $CaCO_3$	2	<2	2	<2	2	3	<2	<2	3	<2	<2	<2
Conductivity	µS/cm	16	18	18	15	16	17	16	18	16	19	18	18
SO_4	mg/L	3.2	4.0	3.9	3.6	3.1	3.6	3.5	3.4	3.8	3.9	3.6	3.4
Hg	mg/L	---	---	---	< 0.0001	---	---	---	---	< 0.0001	---	---	---
Ag	mg/L	---	---	---	0.00001	---	---	---	---	< 0.00001	---	---	---
Al	mg/L	---	---	---	< 0.01	---	---	---	---	< 0.01	---	---	---
As	mg/L	---	---	---	< 0.0002	---	---	---	---	< 0.0002	---	---	---
Ba	mg/L	---	---	---	0.0977	---	---	---	---	0.113	---	---	---
Be	mg/L	---	---	---	0.00006	---	---	---	---	0.00009	---	---	---
B	mg/L	---	---	---	0.0005	---	---	---	---	0.0018	---	---	---
Bi	mg/L	---	---	---	0.00001	---	---	---	---	< 0.00001	---	---	---
Ca	mg/L	---	---	---	2.50	---	---	---	---	2.11	---	---	---
Cd	mg/L	---	---	---	0.000175	---	---	---	---	0.000270	---	---	---
Co	mg/L	---	---	---	0.00225	---	---	---	---	0.00323	---	---	---
Cr	mg/L	---	---	---	< 0.0005	---	---	---	---	< 0.0005	---	---	---
Cu	mg/L	---	---	---	0.0679	---	---	---	---	0.198	---	---	---
Fe	mg/L	---	---	---	< 0.01	---	---	---	---	< 0.01	---	---	---
K	mg/L	---	---	---	0.30	---	---	---	---	0.28	---	---	---
Li	mg/L	---	---	---	0.001	---	---	---	---	< 0.001	---	---	---
Mg	mg/L	---	---	---	0.098	---	---	---	---	0.082	---	---	---
Mn	mg/L	---	---	---	0.0333	---	---	---	---	0.0341	---	---	---
Mo	mg/L	---	---	---	0.00236	---	---	---	---	0.00160	---	---	---
Na	mg/L	---	---	---	0.07	---	---	---	---	< 0.01	---	---	---
Ni	mg/L	---	---	---	0.0010	---	---	---	---	0.0033	---	---	---
Pb	mg/L	---	---	---	0.00002	---	---	---	---	0.00022	---	---	---
Sb	mg/L	---	---	---	0.0002	---	---	---	---	< 0.0002	---	---	---
Se	mg/L	---	---	---	< 0.001	---	---	---	---	< 0.001	---	---	---
Si	mg/L	---	---	---	0.93	---	---	---	---	0.91	---	---	---
Sn	mg/L	---	---	---	0.00128	---	---	---	---	0.00151	---	---	---
Sr	mg/L	---	---	---	0.0107	---	---	---	---	0.0087	---	---	---
Ti	mg/L	---	---	---	< 0.0001	---	---	---	---	< 0.0001	---	---	---
Tl	mg/L	---	---	---	< 0.0002	---	---	---	---	< 0.0002	---	---	---
U	mg/L	---	---	---	0.000131	---	---	---	---	0.000008	---	---	---
V	mg/L	---	---	---	< 0.00003	---	---	---	---	< 0.00003	---	---	---
W	mg/L	---	---	---	0.00007	---	---	---	---	< 0.00003	---	---	---
Y	mg/L	---	---	---	0.000029	---	---	---	---	0.000026	---	---	---
Zn	mg/L	---	---	---	0.027	---	---	---	---	0.055	---	---	---

Test Specimen

Sample	Weight (g
Cyclone U/F - Untreated	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	34	35	36	37	38	39	40	41	42	43	44	45
LIMS		10008-FEB10	10033-FEB10	10062-FEB10	10088-FEB10	10008-MAR10	10034-MAR10	10060-MAR10	10085-MAR10	10129-MAR10	10008-APR10	10035-APR1(	11077-APR10
Hum Cell Leachate Vol	mLs	993	862	981	984	991	989	991	930	998	982	849	1003
pH	units	6.61	6.12	6.20	6.08	5.87	6.03	6.15	5.93	5.94	5.93	5.70	6.04
Alkalinity	mg/L as $CaCO_3$	3	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Acidity	mg/L as $CaCO_3$	<2	<2	2	3	3	5	3	3	4	4	5	3
Conductivity	µS/cm	21	18	20	20	20	20	21	19	19	19	20	23
SO_4	mg/L	4.0	3.8	4.1	5.1	4.4	5.3	5.2	4.5	4.0	4.5	4.5	5.3
Hg	mg/L	---	< 0.0001	---	---	---	---	< 0.0001	---	---	---	---	< 0.0001
Ag	mg/L	---	< 0.00001	---	---	---	---	< 0.00001	---	---	---	---	< 0.00001
Al	mg/L	---	0.02	---	---	---	---	0.07	---	---	---	---	0.12
As	mg/L	---	< 0.0002	---	---	---	---	0.0002	---	---	---	---	< 0.0002
Ba	mg/L	---	0.103	---	---	---	---	0.115	---	---	---	---	0.0952
Be	mg/L	---	0.00015	---	---	---	---	0.00031	---	---	---	---	0.00034
B	mg/L	---	< 0.0002	---	---	---	---	0.0003	---	---	---	---	0.0002
Bi	mg/L	---	< 0.00001	---	---	---	---	< 0.00001	---	---	---	---	< 0.00001
Ca	mg/L	---	1.82	---	---	---	---	2.17	---	---	---	---	2.27
Cd	mg/L	---	0.000424	---	---	---	---	0.000653	---	---	---	---	0.000773
Co	mg/L	---	0.00304	---	---	---	---	0.00348	---	---	---	---	0.00365
Cr	mg/L	---	< 0.0005	---	---	---	---	< 0.0005	---	---	---	---	< 0.0005
Cu	mg/L	---	0.434	---	---	---	---	0.859	---	---	---	---	1.36
Fe	mg/L	---	< 0.01	---	---	---	---	< 0.01	---	---	---	---	< 0.01
K	mg/L	---	0.22	---	---	---	---	0.29	---	---	---	---	0.28
Li	mg/L	---	< 0.001	---	---	---	---	< 0.001	---	---	---	---	< 0.001
Mg	mg/L	---	0.066	---	---	---	---	0.065	---	---	---	---	0.054
Mn	mg/L	---	0.0285	---	---	---	---	0.0262	---	---	---	---	0.0228
Mo	mg/L	---	0.00095	---	---	---	---	0.00078	---	---	---	---	0.00073
Na	mg/L	---	0.01	---	---	---	---	< 0.01	---	---	---	---	< 0.01
Ni	mg/L	---	0.0029	---	---	---	---	0.0038	---	---	---	---	0.0049
Pb	mg/L	---	0.00009	---	---	---	---	0.00040	---	---	---	---	0.00010
Sb	mg/L	---	< 0.0002	---	---	---	---	< 0.0002	---	---	---	---	< 0.0002
Se	mg/L	---	< 0.001	---	---	---	---	< 0.001	---	---	---	---	< 0.001
Si	mg/L	---	0.67	---	---	---	---	0.85	---	---	---	---	0.78
Sn	mg/L	---	0.00237	---	---	---	---	0.00335	---	---	---	---	0.00197
Sr	mg/L	---	0.0065	---	---	---	---	0.0070	---	---	---	---	0.0057
Ti	mg/L	---	< 0.0001	---	---	---	---	< 0.0001	---	---	---	---	< 0.0001
Tl	mg/L	---	< 0.0002	---	---	---	---	< 0.0002	---	---	---	---	< 0.0002
U	mg/L	---	0.000003	---	---	---	---	0.000006	---	---	---	---	0.000011
V	mg/L	---	< 0.00003	---	---	---	---	< 0.00003	---	---	---	---	< 0.00003
W	mg/L	---	< 0.00003	---	---	---	---	< 0.00003	---	---	---	---	< 0.00003
Y	mg/L	---	0.000004	---	---	---	---	0.000021	---	---	---	---	0.000077
Zn	mg/L	---	0.082	---	---	---	---	0.109	---	---	---	---	0.108

Test Specimen

Sample	Weight (g
Cyclone U/F - Untreated	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	46	47	48	49	50	51	52	53	54	55	56	57
LIMS		11101-APR10	10008-MAY10	10034-MAY10	10059-MAY10	10084-MAY10	10008-JUN10	10033-JUN10	10071-JUN10	10083-JUN10	10187-JUN10	10007-JUL10	10033-JUL10
Hum Cell Leachate Vol	mLs	979	928	883	880	884	845	923	883	874	942	864	911
pH	units	6.06	5.95	6.05	5.92	6.07	5.86	5.88	5.84	5.76	5.93	5.72	5.93
Alkalinity	mg/L as $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Acidity	mg/L as $CaCO_3$	5	5	3	4	3	4	4	4	4	3	4	4
Conductivity	µS/cm	20	25	19	17	19	16	18	17	18	18	15	18
SO_4	mg/L	6.1	6.7	3.6	3.8	3.9	6.7	3.8	4.1	5.2	3.5	3.3	4.5
Hg	mg/L	---	---	---	---	< 0.0001	---	---	---	---	< 0.0001	---	---
Ag	mg/L	---	---	---	---	< 0.00001	---	---	---	---	< 0.00001	---	---
Al	mg/L	---	---	---	---	0.10	---	---	---	---	0.11	---	---
As	mg/L	---	---	---	---	< 0.0002	---	---	---	---	< 0.0002	---	---
Ba	mg/L	---	---	---	---	0.0620	---	---	---	---	0.0553	---	---
Be	mg/L	---	---	---	---	0.00023	---	---	---	---	0.00019	---	---
B	mg/L	---	---	---	---	< 0.0002	---	---	---	---	< 0.0002	---	---
Bi	mg/L	---	---	---	---	< 0.00001	---	---	---	---	< 0.00001	---	---
Ca	mg/L	---	---	---	---	1.67	---	---	---	---	1.47	---	---
Cd	mg/L	---	---	---	---	0.000503	---	---	---	---	0.000488	---	---
Co	mg/L	---	---	---	---	0.00213	---	---	---	---	0.00168	---	---
Cr	mg/L	---	---	---	---	< 0.0005	---	---	---	---	< 0.0005	---	---
Cu	mg/L	---	---	---	---	1.23	---	---	---	---	1.33	---	---
Fe	mg/L	---	---	---	---	< 0.002	---	---	---	---	< 0.002	---	---
K	mg/L	---	---	---	---	0.175	---	---	---	---	0.145	---	---
Li	mg/L	---	---	---	---	< 0.001	---	---	---	---	< 0.001	---	---
Mg	mg/L	---	---	---	---	0.030	---	---	---	---	0.021	---	---
Mn	mg/L	---	---	---	---	0.0120	---	---	---	---	0.00933	---	---
Mo	mg/L	---	---	---	---	0.00047	---	---	---	---	0.00038	---	---
Na	mg/L	---	---	---	---	0.01	---	---	---	---	< 0.01	---	---
Ni	mg/L	---	---	---	---	0.0029	---	---	---	---	0.0027	---	---
Pb	mg/L	---	---	---	---	0.00050	---	---	---	---	0.00013	---	---
Sb	mg/L	---	---	---	---	0.0002	---	---	---	---	0.0003	---	---
Se	mg/L	---	---	---	---	< 0.001	---	---	---	---	< 0.001	---	---
Si	mg/L	---	---	---	---	0.48	---	---	---	---	0.29	---	---
Sn	mg/L	---	---	---	---	0.00137	---	---	---	---	0.00130	---	---
Sr	mg/L	---	---	---	---	0.0030	---	---	---	---	0.0028	---	---
Ti	mg/L	---	---	---	---	< 0.0001	---	---	---	---	< 0.0001	---	---
Tl	mg/L	---	---	---	---	< 0.0002	---	---	---	---	< 0.0002	---	---
U	mg/L	---	---	---	---	0.000005	---	---	---	---	0.000008	---	---
V	mg/L	---	---	---	---	< 0.00003	---	---	---	---	< 0.00003	---	---
W	mg/L	---	---	---	---	< 0.00003	---	---	---	---	< 0.00003	---	---
Y	mg/L	---	---	---	---	0.000028	---	---	---	---	0.000130	---	---
Zn	mg/L	---	---	---	---	0.072	---	---	---	---	0.074	---	---

Test Specimen

Sample	Weight (g
Cyclone U/F - Untreated	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	58	59	60	61	62	63	64	65	66	67	68	69
LIMS		10059-JUL10	10085-JUL10	10007-AUG10	10033-AUG10	10059-AUG10	11295-AUG10	10275-AUG10	10019-SEP10	10045-SEP10	10069-SEP10	10093-SEP10	10088-OCT10
Hum Cell Leachate Vol	mLs	886	848	878	961	855	873	916	870	860	921	915	875
pH	units	5.56	*5.78	5.57	5.83	5.74	5.67	5.73	5.70	5.77	*5.37	5.67	5.76
Alkalinity	mg/L as $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Acidity	mg/L as $CaCO_3$	3	5	4	5	4	4	5	5	4	*4	5	5
Conductivity	µS/cm	17	*16	14	17	14	15	17	15	17	18	17	14
SO_4	mg/L	4.3	3.2	3.2	4.1	5.2	3.7	4.8	3.6	6.0	4.4	4.1	4.5
Hg	mg/L	---	---	< 0.0001	---	---	---	---	< 0.0001	---	---	---	---
Ag	mg/L	---	---	< 0.00001	---	---	---	---	< 0.00001	---	---	---	---
Al	mg/L	---	---	0.08	---	---	---	---	0.13	---	---	---	---
As	mg/L	---	---	< 0.0002	---	---	---	---	< 0.0002	---	---	---	---
Ba	mg/L	---	---	0.0377	---	---	---	---	0.0268	---	---	---	---
Be	mg/L	---	---	0.00016	---	---	---	---	0.00017	---	---	---	---
B	mg/L	---	---	< 0.0002	---	---	---	---	0.0002	---	---	---	---
Bi	mg/L	---	---	< 0.00001	---	---	---	---	< 0.00001	---	---	---	---
Ca	mg/L	---	---	1.22	---	---	---	---	0.99	---	---	---	---
Cd	mg/L	---	---	0.000326	---	---	---	---	0.000309	---	---	---	---
Co	mg/L	---	---	0.00152	---	---	---	---	0.00139	---	---	---	---
Cr	mg/L	---	---	< 0.0005	---	---	---	---	< 0.0005	---	---	---	---
Cu	mg/L	---	---	1.15	---	---	---	---	1.47	---	---	---	---
Fe	mg/L	---	---	0.008	---	---	---	---	0.023	---	---	---	---
K	mg/L	---	---	0.135	---	---	---	---	0.118	---	---	---	---
Li	mg/L	---	---	< 0.001	---	---	---	---	< 0.001	---	---	---	---
Mg	mg/L	---	---	0.017	---	---	---	---	0.004	---	---	---	---
Mn	mg/L	---	---	0.00666	---	---	---	---	0.00542	---	---	---	---
Mo	mg/L	---	---	0.00035	---	---	---	---	0.00031	---	---	---	---
Na	mg/L	---	---	< 0.01	---	---	---	---	< 0.01	---	---	---	---
Ni	mg/L	---	---	0.0027	---	---	---	---	0.0020	---	---	---	---
Pb	mg/L	---	---	0.00004	---	---	---	---	0.00003	---	---	---	---
Sb	mg/L	---	---	0.0004	---	---	---	---	0.0004	---	---	---	---
Se	mg/L	---	---	< 0.001	---	---	---	---	< 0.001	---	---	---	---
Si	mg/L	---	---	0.33	---	---	---	---	0.31	---	---	---	---
Sn	mg/L	---	---	0.00105	---	---	---	---	0.00085	---	---	---	---
Sr	mg/L	---	---	0.0015	---	---	---	---	0.0007	---	---	---	---
Ti	mg/L	---	---	< 0.0001	---	---	---	---	< 0.0001	---	---	---	---
Tl	mg/L	---	---	< 0.0002	---	---	---	---	< 0.0002	---	---	---	---
U	mg/L	---	---	0.000007	---	---	---	---	0.000005	---	---	---	---
V	mg/L	---	---	< 0.00003	---	---	---	---	0.00007	---	---	---	---
W	mg/L	---	---	< 0.00003	---	---	---	---	< 0.00003	---	---	---	---
Y	mg/L	---	---	0.000246	---	---	---	---	0.000058	---	---	---	---
Zn	mg/L	---	---	0.059	---	---	---	---	0.058	---	---	---	---

**Reassay LIMS 11259-AUG10*

**Reassay LIMS 11155-OCT10*

Test Specimen

Sample	Weight (g
Cyclone U/F - Untreated	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	70	71	72	73	74	75	76	77	78	79	80
LIMS		10112-OCT10	10260-OCT10	10281-OCT10	10006-NOV10	10029-NOV10	11183-NOV10	11204-NOV10	11225-NOV10	10014-DEC10	10044-DEC10	10069-DEC10
Hum Cell Leachate Vol	mLs	916	904	888	872	858	862	877	845	993	912	927
pH	units	5.67	5.74	5.51	5.80	5.68	5.76	5.96	5.88	5.77	6.03	5.78
Alkalinity	mg/L as $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Acidity	mg/L as $CaCO_3$	5	5	6	5	5	6	5	5	6	3	6
Conductivity	µS/cm	16	15	16	15	17	17	25	18	20	20	17
SO_4	mg/L	4.1	3.8	4.1	3.4	4.0	4.0	6.8	6.0	4.4	4.1	5.7
Hg	mg/L	< 0.0001	---	---	---	---	< 0.0001	---	---	---	---	< 0.0001
Ag	mg/L	< 0.00001	---	---	---	---	< 0.00001	---	---	---	---	< 0.00001
Al	mg/L	0.12	---	---	---	---	0.18	---	---	---	---	0.12
As	mg/L	< 0.0002	---	---	---	---	< 0.0002	---	---	---	---	< 0.0002
Ba	mg/L	0.0306	---	---	---	---	0.0336	---	---	---	---	0.0439
Be	mg/L	0.00018	---	---	---	---	0.00017	---	---	---	---	0.00013
B	mg/L	0.0012	---	---	---	---	0.0006	---	---	---	---	0.0004
Bi	mg/L	< 0.00001	---	---	---	---	< 0.00001	---	---	---	---	< 0.00001
Ca	mg/L	1.28	---	---	---	---	1.30	---	---	---	---	1.22
Cd	mg/L	0.000319	---	---	---	---	0.000326	---	---	---	---	0.000275
Co	mg/L	0.00134	---	---	---	---	0.00122	---	---	---	---	0.00131
Cr	mg/L	< 0.0005	---	---	---	---	< 0.0005	---	---	---	---	0.0008
Cu	mg/L	1.52	---	---	---	---	1.75	---	---	---	---	1.82
Fe	mg/L	< 0.002	---	---	---	---	< 0.002	---	---	---	---	0.008
K	mg/L	0.125	---	---	---	---	0.146	---	---	---	---	0.157
Li	mg/L	< 0.001	---	---	---	---	< 0.001	---	---	---	---	< 0.001
Mg	mg/L	0.016	---	---	---	---	0.012	---	---	---	---	0.012
Mn	mg/L	0.00553	---	---	---	---	0.00485	---	---	---	---	0.00437
Mo	mg/L	0.00029	---	---	---	---	0.00037	---	---	---	---	0.00035
Na	mg/L	0.01	---	---	---	---	< 0.01	---	---	---	---	0.01
Ni	mg/L	0.0019	---	---	---	---	0.0020	---	---	---	---	0.0087
Pb	mg/L	0.00003	---	---	---	---	0.00022	---	---	---	---	0.00002
Sb	mg/L	< 0.0002	---	---	---	---	< 0.0002	---	---	---	---	< 0.0002
Se	mg/L	< 0.001	---	---	---	---	< 0.001	---	---	---	---	< 0.001
Si	mg/L	0.33	---	---	---	---	0.33	---	---	---	---	0.33
Sn	mg/L	0.00067	---	---	---	---	0.00067	---	---	---	---	0.00065
Sr	mg/L	0.0015	---	---	---	---	0.0014	---	---	---	---	0.0014
Ti	mg/L	< 0.0001	---	---	---	---	< 0.0001	---	---	---	---	< 0.0001
Tl	mg/L	< 0.0002	---	---	---	---	< 0.0002	---	---	---	---	< 0.0002
U	mg/L	0.000012	---	---	---	---	0.000008	---	---	---	---	0.000012
V	mg/L	< 0.00003	---	---	---	---	< 0.00003	---	---	---	---	< 0.00003
W	mg/L	< 0.00003	---	---	---	---	< 0.00003	---	---	---	---	< 0.00003
Y	mg/L	0.000156	---	---	---	---	0.000104	---	---	---	---	0.000258
Zn	mg/L	0.066	---	---	---	---	0.064	---	---	---	---	0.060

Test Specimen

Sample	Weight (g
Cyclone U/F - Untreated	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	81	82	83	84	85	86	87	88	89	90	91	92
LIMS		10094-DEC10	10008-JAN11	10036-JAN11	10065-JAN11	10094-JAN11	10006-FEB11	10036-FEB11	10065-FEB11	10097-FEB11	10006-MAR11	10036-MAR11	10070-MAR11
Hum Cell Leachate Vol	mLs	860	959	987	976	890	984	982	979	992	993	964	917
pH	units	5.53	5.74	5.91	5.94	5.82	5.77	5.79	5.74	5.73	5.82	5.84	5.64
Alkalinity	mg/L as $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Acidity	mg/L as $CaCO_3$	6	5	6	5	5	5	5	5	4	4	<2	6
Conductivity	µS/cm	17	17	20	18	17	16	16	21	15	14	14	4
SO_4	mg/L	4.0	3.7	5.4	4.6	3.4	4.0	4.5	3.5	3.4	5.1	5.1	4.9
Hg	mg/L	---	---	---	---	< 0.0001	---	---	---	---	< 0.0001	---	---
Ag	mg/L	---	---	---	---	< 0.00001	---	---	---	---	< 0.00001	---	---
Al	mg/L	---	---	---	---	0.10	---	---	---	---	0.11	---	---
As	mg/L	---	---	---	---	< 0.0002	---	---	---	---	< 0.0002	---	---
Ba	mg/L	---	---	---	---	0.0562	---	---	---	---	0.0405	---	---
Be	mg/L	---	---	---	---	0.00010	---	---	---	---	0.00012	---	---
B	mg/L	---	---	---	---	< 0.0002	---	---	---	---	0.0003	---	---
Bi	mg/L	---	---	---	---	< 0.00001	---	---	---	---	< 0.00001	---	---
Ca	mg/L	---	---	---	---	1.24	---	---	---	---	1.09	---	---
Cd	mg/L	---	---	---	---	0.000491	---	---	---	---	0.000202	---	---
Co	mg/L	---	---	---	---	0.000964	---	---	---	---	0.000727	---	---
Cr	mg/L	---	---	---	---	0.0007	---	---	---	---	< 0.0005	---	---
Cu	mg/L	---	---	---	---	1.67	---	---	---	---	1.60	---	---
Fe	mg/L	---	---	---	---	0.006	---	---	---	---	0.004	---	---
K	mg/L	---	---	---	---	0.150	---	---	---	---	0.126	---	---
Li	mg/L	---	---	---	---	< 0.001	---	---	---	---	< 0.001	---	---
Mg	mg/L	---	---	---	---	0.011	---	---	---	---	0.008	---	---
Mn	mg/L	---	---	---	---	0.00493	---	---	---	---	0.00274	---	---
Mo	mg/L	---	---	---	---	0.00041	---	---	---	---	0.00036	---	---
Na	mg/L	---	---	---	---	0.01	---	---	---	---	0.01	---	---
Ni	mg/L	---	---	---	---	0.0021	---	---	---	---	0.0012	---	---
Pb	mg/L	---	---	---	---	0.00015	---	---	---	---	0.00002	---	---
Sb	mg/L	---	---	---	---	< 0.0002	---	---	---	---	< 0.0002	---	---
Se	mg/L	---	---	---	---	< 0.001	---	---	---	---	< 0.001	---	---
Si	mg/L	---	---	---	---	0.32	---	---	---	---	0.28	---	---
Sn	mg/L	---	---	---	---	0.00106	---	---	---	---	0.00165	---	---
Sr	mg/L	---	---	---	---	0.0012	---	---	---	---	0.0010	---	---
Ti	mg/L	---	---	---	---	< 0.0001	---	---	---	---	< 0.0001	---	---
Tl	mg/L	---	---	---	---	< 0.0002	---	---	---	---	< 0.00002	---	---
U	mg/L	---	---	---	---	0.000014	---	---	---	---	0.000007	---	---
V	mg/L	---	---	---	---	< 0.00003	---	---	---	---	< 0.00003	---	---
W	mg/L	---	---	---	---	< 0.00003	---	---	---	---	< 0.00003	---	---
Y	mg/L	---	---	---	---	0.000346	---	---	---	---	0.000071	---	---
Zn	mg/L	---	---	---	---	0.045	---	---	---	---	0.037	---	---

Test Specimen

Sample	Weight (g
Cyclone U/F - Untreated	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	93	94	95	96	97	98	99	100	101	102	103	104
LIMS		10102-MAR11	10222-MAR11	10010-APR11	10039-APR11	10128-APR11	11054-APR11	10049-MAY11	10067-MAY11	10101-MAY11	10140-MAY11	11410-MAY11	10024-JUN11
Hum Cell Leachate Vol	mLs	977	980	990	988	958	989	994	955	980	957	977	977
pH	units	5.77	5.53	5.90	5.82	5.76	5.81	5.87	5.82	5.74	5.95	5.91	5.68
Alkalinity	mg/L as $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Acidity	mg/L as $CaCO_3$	6	6	5	5	5	5	4	5	4	4	6	6
Conductivity	µS/cm	4	19	18	4	14	12	4	14	16	15	16	17
SO_4	mg/L	4.4	4.4	4.6	4.4	4.6	3.6	3.7	4.3	4.0	3.6	4.9	4.3
Hg	mg/L	---	---	< 0.0001	---	---	---	---	< 0.0001	---	---	---	---
Ag	mg/L	---	---	< 0.00001	---	---	---	---	< 0.00001	---	---	---	---
Al	mg/L	---	---	0.15	---	---	---	---	0.10	---	---	---	---
As	mg/L	---	---	< 0.0002	---	---	---	---	< 0.0002	---	---	---	---
Ba	mg/L	---	---	0.0413	---	---	---	---	0.0383	---	---	---	---
Be	mg/L	---	---	0.00013	---	---	---	---	0.00011	---	---	---	---
B	mg/L	---	---	< 0.0002	---	---	---	---	< 0.0002	---	---	---	---
Bi	mg/L	---	---	< 0.00001	---	---	---	---	< 0.00001	---	---	---	---
Ca	mg/L	---	---	1.33	---	---	---	---	1.17	---	---	---	---
Cd	mg/L	---	---	0.000214	---	---	---	---	0.000185	---	---	---	---
Co	mg/L	---	---	0.000895	---	---	---	---	0.000878	---	---	---	---
Cr	mg/L	---	---	< 0.0005	---	---	---	---	< 0.0005	---	---	---	---
Cu	mg/L	---	---	1.86	---	---	---	---	1.75	---	---	---	---
Fe	mg/L	---	---	0.003	---	---	---	---	0.012	---	---	---	---
K	mg/L	---	---	0.154	---	---	---	---	0.148	---	---	---	---
Li	mg/L	---	---	< 0.001	---	---	---	---	< 0.001	---	---	---	---
Mg	mg/L	---	---	0.009	---	---	---	---	0.009	---	---	---	---
Mn	mg/L	---	---	0.00326	---	---	---	---	0.00261	---	---	---	---
Mo	mg/L	---	---	0.00041	---	---	---	---	0.00031	---	---	---	---
Na	mg/L	---	---	< 0.01	---	---	---	---	< 0.01	---	---	---	---
Ni	mg/L	---	---	0.0017	---	---	---	---	0.0015	---	---	---	---
Pb	mg/L	---	---	0.00007	---	---	---	---	0.00003	---	---	---	---
Sb	mg/L	---	---	< 0.0002	---	---	---	---	< 0.0002	---	---	---	---
Se	mg/L	---	---	< 0.001	---	---	---	---	< 0.001	---	---	---	---
Si	mg/L	---	---	0.37	---	---	---	---	0.31	---	---	---	---
Sn	mg/L	---	---	0.00128	---	---	---	---	0.00098	---	---	---	---
Sr	mg/L	---	---	0.0011	---	---	---	---	0.0008	---	---	---	---
Ti	mg/L	---	---	< 0.0001	---	---	---	---	< 0.0001	---	---	---	---
Tl	mg/L	---	---	< 0.00002	---	---	---	---	< 0.00002	---	---	---	---
U	mg/L	---	---	0.000012	---	---	---	---	0.000011	---	---	---	---
V	mg/L	---	---	< 0.00003	---	---	---	---	< 0.00003	---	---	---	---
W	mg/L	---	---	< 0.00003	---	---	---	---	< 0.00003	---	---	---	---
Y	mg/L	---	---	0.000192	---	---	---	---	0.000185	---	---	---	---
Zn	mg/L	---	---	0.046	---	---	---	---	0.039	---	---	---	---

**Reassay LIM*

Test Specimen

Sample	Weight (g
Cyclone U/F - Untreated	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	105	106	107	108	109	110	111	112	113	114	115	116
LIMS		10064-JUN11	10104-JUN11	10261-JUN11	10006-JUL11	10047-JUL11	10093-JUL11	10135-JUL11	10009-AUG11	10056-AUG11	11088-AUG11	11172-AUG11	10275-AUG11
Hum Cell Leachate Vol	mLs	988	990	992	979	983	989	942	994	977	970	986	977
pH	units	5.93	5.83	5.71	5.65	5.72	5.86	5.76	5.80	5.86	5.77	5.72	5.74
Alkalinity	mg/L as $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Acidity	mg/L as $CaCO_3$	4	5	5	5	4	4	3	3	3	4	4	3
Conductivity	µS/cm	16	15	16	15	16	13	15	14	10	12	14	15
SO_4	mg/L	3.7	3.8	3.7	3.7	4.0	3.7	3.2	4.6	3.6	3.7	3.1	3.2
Hg	mg/L	< 0.0001	---	---	---	---	< 0.0001	---	---	---	---	< 0.0001	---
Ag	mg/L	< 0.00001	---	---	---	---	< 0.00001	---	---	---	---	< 0.00001	---
Al	mg/L	0.12	---	---	---	---	0.09	---	---	---	---	0.09	---
As	mg/L	0.0003	---	---	---	---	< 0.0002	---	---	---	---	< 0.0002	---
Ba	mg/L	0.0369	---	---	---	---	0.0387	---	---	---	---	0.0377	---
Be	mg/L	0.00009	---	---	---	---	0.00008	---	---	---	---	0.00005	---
B	mg/L	0.0011	---	---	---	---	< 0.0002	---	---	---	---	0.0006	---
Bi	mg/L	< 0.00001	---	---	---	---	< 0.00001	---	---	---	---	< 0.00001	---
Ca	mg/L	1.31	---	---	---	---	1.11	---	---	---	---	1.13	---
Cd	mg/L	*0.000149	---	---	---	---	0.000305	---	---	---	---	0.000299	---
Co	mg/L	*0.000738	---	---	---	---	0.000663	---	---	---	---	0.000564	---
Cr	mg/L	< 0.0005	---	---	---	---	< 0.0005	---	---	---	---	< 0.0005	---
Cu	mg/L	1.60	---	---	---	---	1.61	---	---	---	---	1.50	---
Fe	mg/L	0.031	---	---	---	---	< 0.002	---	---	---	---	< 0.002	---
K	mg/L	0.129	---	---	---	---	0.130	---	---	---	---	0.121	---
Li	mg/L	< 0.001	---	---	---	---	< 0.001	---	---	---	---	< 0.001	---
Mg	mg/L	*0.008	---	---	---	---	0.008	---	---	---	---	0.006	---
Mn	mg/L	*0.00249	---	---	---	---	0.00355	---	---	---	---	0.00343	---
Mo	mg/L	0.00035	---	---	---	---	0.00038	---	---	---	---	0.00040	---
Na	mg/L	0.01	---	---	---	---	< 0.01	---	---	---	---	< 0.01	---
Ni	mg/L	0.0024	---	---	---	---	0.0010	---	---	---	---	0.0009	---
Pb	mg/L	*<0.00002	---	---	---	---	< 0.00002	---	---	---	---	0.00031	---
Sb	mg/L	< 0.0002	---	---	---	---	< 0.0002	---	---	---	---	0.0002	---
Se	mg/L	0.005	---	---	---	---	< 0.001	---	---	---	---	< 0.001	---
Si	mg/L	0.27	---	---	---	---	0.23	---	---	---	---	0.20	---
Sn	mg/L	0.00117	---	---	---	---	0.00100	---	---	---	---	0.00095	---
Sr	mg/L	0.0011	---	---	---	---	0.0009	---	---	---	---	0.0011	---
Ti	mg/L	< 0.0001	---	---	---	---	< 0.0001	---	---	---	---	< 0.0001	---
Tl	mg/L	*<0.00002	---	---	---	---	< 0.00002	---	---	---	---	< 0.00002	---
U	mg/L	*0.000007	---	---	---	---	0.000002	---	---	---	---	< 0.000001	---
V	mg/L	< 0.00003	---	---	---	---	< 0.00003	---	---	---	---	< 0.00003	---
W	mg/L	< 0.00003	---	---	---	---	< 0.00003	---	---	---	---	< 0.00003	---
Y	mg/L	0.000210	---	---	---	---	0.000026	---	---	---	---	0.000040	---
Zn	mg/L	*0.023	---	---	---	---	0.032	---	---	---	---	0.032	---

!S 11312-JUN11 **Reas*

Test Specimen

Sample	Weight (g
Cyclone U/F - Untreated	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	117	118	119	120	121	122	123	124	125	126	127	128
LIMS		10008-SEP11	10052-SEP11	10170-SEP11	10304-SEP11	10033-OCT11	10086-OCT11	10137-OCT11	11234-OCT11	10008-NOV11	10079-NOV11	10139-NOV11	10196-NOV11
Hum Cell Leachate Vol	mLs	966	964	969	984	977	972	975	974	981	972	982	1003
pH	units	*5.79	5.87	5.75	5.74	5.50	5.63	5.56	5.75	5.86	5.70	5.73	5.54
Alkalinity	mg/L as $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Acidity	mg/L as $CaCO_3$	4	2	3	<2	4	<2	5	3	3	4	4	6
Conductivity	µS/cm	*11	14	15	3	15	13	20	10	12	9	12	3
SO_4	mg/L	4.5	2.8	4.3	4.4	2.9	4.0	2.8	4.9	3.2	3.0	4.0	3.1
Hg	mg/L	---	---	---	< 0.0001	---	---	---	---	< 0.0001	---	---	---
Ag	mg/L	---	---	---	< 0.00001	---	---	---	---	< 0.00001	---	---	---
Al	mg/L	---	---	---	0.07	---	---	---	---	0.09	---	---	---
As	mg/L	---	---	---	< 0.0002	---	---	---	---	< 0.0002	---	---	---
Ba	mg/L	---	---	---	0.0383	---	---	---	---	0.0353	---	---	---
Be	mg/L	---	---	---	0.00005	---	---	---	---	0.00006	---	---	---
B	mg/L	---	---	---	< 0.0002	---	---	---	---	< 0.0002	---	---	---
Bi	mg/L	---	---	---	< 0.00001	---	---	---	---	< 0.00001	---	---	---
Ca	mg/L	---	---	---	0.90	---	---	---	---	1.06	---	---	---
Cd	mg/L	---	---	---	0.000110	---	---	---	---	0.000107	---	---	---
Co	mg/L	---	---	---	0.000443	---	---	---	---	0.000479	---	---	---
Cr	mg/L	---	---	---	< 0.0005	---	---	---	---	< 0.0005	---	---	---
Cu	mg/L	---	---	---	1.43	---	---	---	---	1.51	---	---	---
Fe	mg/L	---	---	---	< 0.002	---	---	---	---	< 0.002	---	---	---
K	mg/L	---	---	---	0.102	---	---	---	---	0.117	---	---	---
Li	mg/L	---	---	---	< 0.001	---	---	---	---	< 0.001	---	---	---
Mg	mg/L	---	---	---	0.002	---	---	---	---	0.007	---	---	---
Mn	mg/L	---	---	---	0.00160	---	---	---	---	0.00167	---	---	---
Mo	mg/L	---	---	---	0.00038	---	---	---	---	0.00037	---	---	---
Na	mg/L	---	---	---	< 0.01	---	---	---	---	0.01	---	---	---
Ni	mg/L	---	---	---	0.0007	---	---	---	---	0.0009	---	---	---
Pb	mg/L	---	---	---	< 0.00002	---	---	---	---	< 0.00002	---	---	---
Sb	mg/L	---	---	---	0.0002	---	---	---	---	< 0.0002	---	---	---
Se	mg/L	---	---	---	< 0.001	---	---	---	---	< 0.001	---	---	---
Si	mg/L	---	---	---	0.20	---	---	---	---	0.23	---	---	---
Sn	mg/L	---	---	---	0.00103	---	---	---	---	0.00098	---	---	---
Sr	mg/L	---	---	---	0.0005	---	---	---	---	0.0007	---	---	---
Ti	mg/L	---	---	---	< 0.0001	---	---	---	---	< 0.0001	---	---	---
Tl	mg/L	---	---	---	< 0.00002	---	---	---	---	< 0.00002	---	---	---
U	mg/L	---	---	---	0.000004	---	---	---	---	0.000006	---	---	---
V	mg/L	---	---	---	< 0.00003	---	---	---	---	< 0.00003	---	---	---
W	mg/L	---	---	---	< 0.00003	---	---	---	---	0.00006	---	---	---
Y	mg/L	---	---	---	0.000024	---	---	---	---	0.000028	---	---	---
Zn	mg/L	---	---	---	0.013	---	---	---	---	0.026	---	---	---

ay LIMS 10473-SEP11

Test Specimen

Sample	Weight (g
Cyclone U/F - Untreated	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	129	130	131	132	133	134	135	136	137	138	139	140
LIMS		11787-NOV11	10007-DEC11	10069-DEC11	11043-DEC11	10266-DEC11	10016-JAN12	10099-JAN12	11050-JAN12	10190-JAN12	10250-JAN12	10049-FEB12	10112-FEB12
Hum Cell Leachate Vol	mLs	966	983	985	969	971	993	962	967	970	979	988	964
pH	units	5.61	5.80	*5.69	5.32	5.81	5.78	5.67	5.76	5.79	5.64	5.47	5.75
Alkalinity	mg/L as $CaCO_3$	<2	<2	<2	3	<2	<2	<2	<2	<2	<2	<2	<2
Acidity	mg/L as $CaCO_3$	5	4	2	<2	3	4	4	5	4	4	5	4
Conductivity	µS/cm	14	*14	*14	23	15	12	15	11	13	11	14	19
SO_4	mg/L	3.2	4.2	3.3	3.4	4.0	3.7	3.5	3.3	3.3	3.7	4.0	3.5
Hg	mg/L	---	< 0.0001	---	---	---	---	< 0.0001	---	---	---	---	< 0.0001
Ag	mg/L	---	< 0.00001	---	---	---	---	< 0.00001	---	---	---	---	< 0.00001
Al	mg/L	---	0.09	---	---	---	---	0.10	---	---	---	---	0.09
As	mg/L	---	< 0.0002	---	---	---	---	0.0002	---	---	---	---	< 0.0002
Ba	mg/L	---	0.0304	---	---	---	---	0.0329	---	---	---	---	0.0328
Be	mg/L	---	0.00009	---	---	---	---	0.00007	---	---	---	---	0.00007
B	mg/L	---	< 0.0002	---	---	---	---	< 0.0002	---	---	---	---	< 0.0002
Bi	mg/L	---	< 0.00001	---	---	---	---	< 0.00001	---	---	---	---	< 0.00001
Ca	mg/L	---	0.97	---	---	---	---	0.97	---	---	---	---	0.99
Cd	mg/L	---	0.000113	---	---	---	---	0.000164	---	---	---	---	0.000077
Co	mg/L	---	0.000530	---	---	---	---	0.000516	---	---	---	---	0.000516
Cr	mg/L	---	< 0.0005	---	---	---	---	< 0.0005	---	---	---	---	< 0.0005
Cu	mg/L	---	1.58	---	---	---	---	1.55	---	---	---	---	1.46
Fe	mg/L	---	< 0.003	---	---	---	---	< 0.003	---	---	---	---	< 0.003
K	mg/L	---	0.108	---	---	---	---	0.118	---	---	---	---	0.114
Li	mg/L	---	< 0.001	---	---	---	---	< 0.001	---	---	---	---	< 0.001
Mg	mg/L	---	0.005	---	---	---	---	0.007	---	---	---	---	0.007
Mn	mg/L	---	0.00170	---	---	---	---	0.00243	---	---	---	---	0.00271
Mo	mg/L	---	0.00041	---	---	---	---	0.00091	---	---	---	---	0.00067
Na	mg/L	---	< 0.01	---	---	---	---	0.01	---	---	---	---	0.01
Ni	mg/L	---	0.0011	---	---	---	---	0.001	---	---	---	---	0.0007
Pb	mg/L	---	< 0.00002	---	---	---	---	0.00014	---	---	---	---	0.00009
Sb	mg/L	---	< 0.0002	---	---	---	---	< 0.0002	---	---	---	---	0.0002
Se	mg/L	---	< 0.001	---	---	---	---	< 0.001	---	---	---	---	< 0.001
Si	mg/L	---	0.18	---	---	---	---	0.22	---	---	---	---	0.20
Sn	mg/L	---	0.00122	---	---	---	---	0.00100	---	---	---	---	0.00103
Sr	mg/L	---	0.0003	---	---	---	---	0.0006	---	---	---	---	0.0006
Ti	mg/L	---	< 0.0001	---	---	---	---	< 0.0001	---	---	---	---	< 0.0001
Tl	mg/L	---	< 0.00002	---	---	---	---	< 0.00002	---	---	---	---	< 0.00002
U	mg/L	---	0.000006	---	---	---	---	< 0.000001	---	---	---	---	0.000008
V	mg/L	---	< 0.00003	---	---	---	---	< 0.00003	---	---	---	---	< 0.00003
W	mg/L	---	< 0.00003	---	---	---	---	< 0.00003	---	---	---	---	< 0.00003
Y	mg/L	---	0.000025	---	---	---	---	0.000024	---	---	---	---	0.000022
Zn	mg/L	---	0.024	---	---	---	---	0.024	---	---	---	---	0.024

**Reassay LIMS 14270-JAN12 *Reassay LIMS 14271-JAN12*

Test Specimen

Sample	Weight (g
Cyclone U/F - Untreated	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	141	142	143	144	145	146	147	148	149	150	151	152
LIMS		10170-FEB12	10215-FEB12	10012-MAR12	10082-MAR12	10124-MAR12	10190-MAR12	10017-APR12	10056-APR12	10142-APR12	10167-APR12	10006-MAY12	10083-MAY12
Hum Cell Leachate Vol	mLs	989	950	962	953	976	962	982	977	979	972	979	983
pH	units	5.61	5.73	5.75	5.43	5.81	5.97	5.72	5.78	5.71	5.71	5.89	5.87
Alkalinity	mg/L as $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Acidity	mg/L as $CaCO_3$	5	6	3	4	5	<2	4	5	8	5	5	5
Conductivity	µS/cm	15	15	15	12	12	16	18	15	16	12	16	15
SO_4	mg/L	3.7	3.8	6.3	3.5	3.7	5.5	4.4	3.7	3.6	3.6	3.2	3.4
Hg	mg/L	---	---	---	---	< 0.0001	---	---	---	---	< 0.0001	---	---
Ag	mg/L	---	---	---	---	< 0.00001	---	---	---	---	< 0.00001	---	---
Al	mg/L	---	---	---	---	0.11	---	---	---	---	0.07	---	---
As	mg/L	---	---	---	---	< 0.0002	---	---	---	---	< 0.0002	---	---
Ba	mg/L	---	---	---	---	0.0390	---	---	---	---	0.0441	---	---
Be	mg/L	---	---	---	---	0.00005	---	---	---	---	0.00006	---	---
B	mg/L	---	---	---	---	0.0004	---	---	---	---	< 0.0002	---	---
Bi	mg/L	---	---	---	---	< 0.00001	---	---	---	---	< 0.00001	---	---
Ca	mg/L	---	---	---	---	1.15	---	---	---	---	1.01	---	---
Cd	mg/L	---	---	---	---	0.000193	---	---	---	---	0.000066	---	---
Co	mg/L	---	---	---	---	0.000570	---	---	---	---	0.000499	---	---
Cr	mg/L	---	---	---	---	< 0.0005	---	---	---	---	< 0.0005	---	---
Cu	mg/L	---	---	---	---	1.79	---	---	---	---	1.52	---	---
Fe	mg/L	---	---	---	---	< 0.003	---	---	---	---	< 0.003	---	---
K	mg/L	---	---	---	---	0.138	---	---	---	---	0.112	---	---
Li	mg/L	---	---	---	---	< 0.001	---	---	---	---	< 0.001	---	---
Mg	mg/L	---	---	---	---	0.008	---	---	---	---	0.007	---	---
Mn	mg/L	---	---	---	---	0.00259	---	---	---	---	0.00165	---	---
Mo	mg/L	---	---	---	---	0.00045	---	---	---	---	0.00037	---	---
Na	mg/L	---	---	---	---	< 0.01	---	---	---	---	0.01	---	---
Ni	mg/L	---	---	---	---	0.0010	---	---	---	---	0.0009	---	---
Pb	mg/L	---	---	---	---	0.00011	---	---	---	---	< 0.00002	---	---
Sb	mg/L	---	---	---	---	< 0.0002	---	---	---	---	< 0.0002	---	---
Se	mg/L	---	---	---	---	< 0.001	---	---	---	---	< 0.001	---	---
Si	mg/L	---	---	---	---	0.23	---	---	---	---	0.19	---	---
Sn	mg/L	---	---	---	---	0.00108	---	---	---	---	0.00104	---	---
Sr	mg/L	---	---	---	---	0.0008	---	---	---	---	0.0007	---	---
Ti	mg/L	---	---	---	---	< 0.0001	---	---	---	---	< 0.0001	---	---
Tl	mg/L	---	---	---	---	< 0.00002	---	---	---	---	< 0.00002	---	---
U	mg/L	---	---	---	---	0.000010	---	---	---	---	0.000002	---	---
V	mg/L	---	---	---	---	< 0.00003	---	---	---	---	< 0.00003	---	---
W	mg/L	---	---	---	---	< 0.00003	---	---	---	---	0.00004	---	---
Y	mg/L	---	---	---	---	0.000038	---	---	---	---	0.000032	---	---
Zn	mg/L	---	---	---	---	0.027	---	---	---	---	0.023	---	---

Test Specimen

Sample	Weight (g
Cyclone U/F - Untreated	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	153	154	155	156	157	158	159	160	161	162	163	164
LIMS		10138-MAY12	11125-MAY12	10348-MAY12	10019-JUN12	10050-JUN12	10092-JUN12	10134-JUN12	10006-JUL12	10212-JUL12	10213-JUL12	10214-JUL12	10215-JUL12
Hum Cell Leachate Vol	mLs	985	963	982	979	973	993	955	982	968	986	943	974
pH	units	5.94	5.48	5.61	5.52	5.55	5.60	5.59	5.72	5.67	5.78	5.30	5.65
Alkalinity	mg/L as $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Acidity	mg/L as $CaCO_3$	5	6	6	7	4	4	4	3	5	3	4	7
Conductivity	µS/cm	20	14	16	17	16	17	15	18	20	16	18	16
SO_4	mg/L	3.6	3.4	4.4	4.7	4.9	4.9	3.4	3.4	4.3	3.2	3.3	3.0
Hg	mg/L	---	---	< 0.0001	---	---	---	---	< 0.0001	---	---	---	---
Ag	mg/L	---	---	< 0.00001	---	---	---	---	< 0.00001	---	---	---	---
Al	mg/L	---	---	0.11	---	---	---	---	0.08	---	---	---	---
As	mg/L	---	---	< 0.0002	---	---	---	---	< 0.0002	---	---	---	---
Ba	mg/L	---	---	0.0499	---	---	---	---	0.0717	---	---	---	---
Be	mg/L	---	---	0.00006	---	---	---	---	0.00006	---	---	---	---
B	mg/L	---	---	0.0002	---	---	---	---	< 0.0002	---	---	---	---
Bi	mg/L	---	---	< 0.00001	---	---	---	---	< 0.00001	---	---	---	---
Ca	mg/L	---	---	1.31	---	---	---	---	1.11	---	---	---	---
Cd	mg/L	---	---	0.000064	---	---	---	---	0.000050	---	---	---	---
Co	mg/L	---	---	0.000613	---	---	---	---	0.000522	---	---	---	---
Cr	mg/L	---	---	< 0.0005	---	---	---	---	< 0.0005	---	---	---	---
Cu	mg/L	---	---	1.74	---	---	---	---	1.72	---	---	---	---
Fe	mg/L	---	---	< 0.003	---	---	---	---	< 0.003	---	---	---	---
K	mg/L	---	---	0.146	---	---	---	---	0.143	---	---	---	---
Li	mg/L	---	---	< 0.001	---	---	---	---	< 0.001	---	---	---	---
Mg	mg/L	---	---	0.010	---	---	---	---	0.007	---	---	---	---
Mn	mg/L	---	---	0.00277	---	---	---	---	0.00164	---	---	---	---
Mo	mg/L	---	---	0.00053	---	---	---	---	0.00049	---	---	---	---
Na	mg/L	---	---	0.01	---	---	---	---	0.02	---	---	---	---
Ni	mg/L	---	---	0.0014	---	---	---	---	0.0010	---	---	---	---
Pb	mg/L	---	---	0.00003	---	---	---	---	< 0.00002	---	---	---	---
Sb	mg/L	---	---	< 0.0002	---	---	---	---	< 0.0002	---	---	---	---
Se	mg/L	---	---	< 0.001	---	---	---	---	< 0.001	---	---	---	---
Si	mg/L	---	---	0.25	---	---	---	---	0.19	---	---	---	---
Sn	mg/L	---	---	0.00135	---	---	---	---	0.00148	---	---	---	---
Sr	mg/L	---	---	0.0008	---	---	---	---	0.0008	---	---	---	---
Ti	mg/L	---	---	< 0.0001	---	---	---	---	< 0.0001	---	---	---	---
Tl	mg/L	---	---	< 0.00002	---	---	---	---	< 0.00002	---	---	---	---
U	mg/L	---	---	< 0.000001	---	---	---	---	0.000002	---	---	---	---
V	mg/L	---	---	< 0.00003	---	---	---	---	< 0.00003	---	---	---	---
W	mg/L	---	---	< 0.00003	---	---	---	---	< 0.00003	---	---	---	---
Y	mg/L	---	---	0.000043	---	---	---	---	0.000037	---	---	---	---
Zn	mg/L	---	---	0.026	---	---	---	---	0.022	---	---	---	---

Test Specimen

Sample	Weight (g
Cyclone U/F - Untreated	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	165	166	167	168	169	170	171	172	173	174	175	176
LIMS		10024-AUG12	10067-AUG12	10187-AUG12	10396-AUG12	10006-SEP12	10050-SEP12	10093-SEP12	10137-SEP12	10016-OCT12	10057-OCT12	10101-OCT12	10212-OCT12
Hum Cell Leachate Vol	mLs	987	945	972	990	945	984	995	923	972	966	989	973
pH	units	5.99	5.95	5.66	5.76	5.62	5.37	6.07	5.97	5.44	6.18	5.75	6.05
Alkalinity	mg/L as $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Acidity	mg/L as $CaCO_3$	2	4	6	3	4	4	4	4	5	<2	4	<2
Conductivity	µS/cm	17	18	21	15	16	21	24	22	25	14	19	18
SO_4	mg/L	4.3	3.2	3.3	4.4	4.2	3.6	3.8	3.3	3.0	2.7	7.0	3.4
Hg	mg/L	< 0.0001	---	---	---	---	< 0.0001	---	---	---	---	< 0.0001	---
Ag	mg/L	< 0.00001	---	---	---	---	< 0.00001	---	---	---	---	< 0.00001	---
Al	mg/L	0.08	---	---	---	---	0.07	---	---	---	---	0.05	---
As	mg/L	< 0.0002	---	---	---	---	< 0.0002	---	---	---	---	< 0.0002	---
Ba	mg/L	0.0866	---	---	---	---	0.102	---	---	---	---	0.115	---
Be	mg/L	0.00006	---	---	---	---	0.00004	---	---	---	---	0.00004	---
B	mg/L	0.0012	---	---	---	---	< 0.0002	---	---	---	---	< 0.0002	---
Bi	mg/L	< 0.00001	---	---	---	---	< 0.00001	---	---	---	---	< 0.00001	---
Ca	mg/L	1.24	---	---	---	---	1.31	---	---	---	---	1.23	---
Cd	mg/L	0.000070	---	---	---	---	0.000080	---	---	---	---	0.000060	---
Co	mg/L	0.000546	---	---	---	---	0.000607	---	---	---	---	0.000507	---
Cr	mg/L	< 0.0005	---	---	---	---	< 0.0005	---	---	---	---	< 0.0005	---
Cu	mg/L	1.65	---	---	---	---	1.95	---	---	---	---	1.52	---
Fe	mg/L	< 0.003	---	---	---	---	< 0.003	---	---	---	---	< 0.003	---
K	mg/L	0.159	---	---	---	---	0.184	---	---	---	---	0.154	---
Li	mg/L	< 0.001	---	---	---	---	< 0.001	---	---	---	---	< 0.001	---
Mg	mg/L	0.008	---	---	---	---	0.008	---	---	---	---	0.007	---
Mn	mg/L	0.00173	---	---	---	---	0.00200	---	---	---	---	0.00166	---
Mo	mg/L	0.00040	---	---	---	---	0.00073	---	---	---	---	0.00060	---
Na	mg/L	0.02	---	---	---	---	< 0.01	---	---	---	---	0.01	---
Ni	mg/L	0.0010	---	---	---	---	0.0011	---	---	---	---	0.0009	---
Pb	mg/L	< 0.00002	---	---	---	---	0.00002	---	---	---	---	0.00005	---
Sb	mg/L	0.0003	---	---	---	---	< 0.0002	---	---	---	---	0.0002	---
Se	mg/L	< 0.001	---	---	---	---	< 0.001	---	---	---	---	< 0.001	---
Si	mg/L	0.24	---	---	---	---	0.21	---	---	---	---	0.22	---
Sn	mg/L	0.00154	---	---	---	---	0.00128	---	---	---	---	0.00131	---
Sr	mg/L	0.0010	---	---	---	---	0.0010	---	---	---	---	0.0010	---
Ti	mg/L	< 0.0001	---	---	---	---	< 0.0001	---	---	---	---	< 0.0001	---
Tl	mg/L	< 0.00002	---	---	---	---	< 0.00002	---	---	---	---	< 0.00002	---
U	mg/L	0.000019	---	---	---	---	0.000007	---	---	---	---	0.000003	---
V	mg/L	< 0.00003	---	---	---	---	< 0.00003	---	---	---	---	< 0.00003	---
W	mg/L	< 0.00003	---	---	---	---	< 0.00003	---	---	---	---	< 0.00003	---
Y	mg/L	0.000028	---	---	---	---	0.000039	---	---	---	---	0.000035	---
Zn	mg/L	0.023	---	---	---	---	0.024	---	---	---	---	0.02	---

Test Specimen

Sample	Weight (g
Cyclone U/F - Untreated	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	177	178	179	180	181	182	183	184	185	186	187
LIMS		11183-OCT12	10016-NOV12	10059-NOV12	11036-NOV12	11145-NOV12	10005-DEC12	10048-DEC12	10090-DEC12	11087-DEC12	11173-DEC12	10027-JAN13
Hum Cell Leachate Vol	mLs	943	980	995	993	984	990	981	988	957	985	986
pH	units	5.72	5.81	5.72	5.80	5.92	5.93	5.80	5.51	5.26	5.71	5.76
Alkalinity	mg/L as $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Acidity	mg/L as $CaCO_3$	5	3	3	<2	2	3	5	4	4	5	7
Conductivity	µS/cm	25	19	16	17	17	17	20	18	16	20	19
SO_4	mg/L	3.6	3.8	3.1	3.5	3.0	3.9	5.0	3.1	3.3	3.4	2.9
Hg	mg/L	---	---	---	< 0.0001	---	---	---	---	< 0.00001	---	---
Ag	mg/L	---	---	---	< 0.00001	---	---	---	---	< 0.00001	---	---
Al	mg/L	---	---	---	0.08	---	---	---	---	0.05	---	---
As	mg/L	---	---	---	< 0.0002	---	---	---	---	< 0.0002	---	---
Ba	mg/L	---	---	---	0.134	---	---	---	---	0.125	---	---
Be	mg/L	---	---	---	0.00005	---	---	---	---	0.00004	---	---
B	mg/L	---	---	---	< 0.0002	---	---	---	---	0.0010	---	---
Bi	mg/L	---	---	---	< 0.00001	---	---	---	---	< 0.00001	---	---
Ca	mg/L	---	---	---	1.26	---	---	---	---	1.12	---	---
Cd	mg/L	---	---	---	0.000066	---	---	---	---	0.000068	---	---
Co	mg/L	---	---	---	0.000551	---	---	---	---	0.000494	---	---
Cr	mg/L	---	---	---	< 0.0005	---	---	---	---	0.0007	---	---
Cu	mg/L	---	---	---	1.68	---	---	---	---	1.36	---	---
Fe	mg/L	---	---	---	< 0.003	---	---	---	---	0.026	---	---
K	mg/L	---	---	---	0.154	---	---	---	---	0.138	---	---
Li	mg/L	---	---	---	< 0.001	---	---	---	---	< 0.001	---	---
Mg	mg/L	---	---	---	0.008	---	---	---	---	0.011	---	---
Mn	mg/L	---	---	---	0.00191	---	---	---	---	0.00166	---	---
Mo	mg/L	---	---	---	0.00073	---	---	---	---	0.00069	---	---
Na	mg/L	---	---	---	0.02	---	---	---	---	0.01	---	---
Ni	mg/L	---	---	---	0.0010	---	---	---	---	0.0009	---	---
Pb	mg/L	---	---	---	0.00055	---	---	---	---	0.00007	---	---
Sb	mg/L	---	---	---	0.0004	---	---	---	---	< 0.0002	---	---
Se	mg/L	---	---	---	< 0.001	---	---	---	---	< 0.001	---	---
Si	mg/L	---	---	---	0.21	---	---	---	---	0.13	---	---
Sn	mg/L	---	---	---	0.00141	---	---	---	---	0.00102	---	---
Sr	mg/L	---	---	---	0.0013	---	---	---	---	0.0011	---	---
Ti	mg/L	---	---	---	< 0.0001	---	---	---	---	< 0.0001	---	---
Tl	mg/L	---	---	---	< 0.00002	---	---	---	---	< 0.00002	---	---
U	mg/L	---	---	---	0.000003	---	---	---	---	0.000063	---	---
V	mg/L	---	---	---	< 0.00003	---	---	---	---	< 0.00003	---	---
W	mg/L	---	---	---	< 0.00003	---	---	---	---	< 0.00003	---	---
Y	mg/L	---	---	---	0.000036	---	---	---	---	0.000161	---	---
Zn	mg/L	---	---	---	0.021	---	---	---	---	0.018	---	---

Test Specimen

Sample	Weight (g
Cyclone U/F - Untreated	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	188	189	190	191	192	193	194	195	196	197	198
LIMS		10071-JAN13	10115-JAN13	10229-JAN13	10005-FEB13	10048-FEB13	10110-FEB13	10159-FEB13	10006-MAR13	10055-MAR13	10158-MAR13	10247-MAR13
Hum Cell Leachate Vol	mLs	984	981	949	982	983	950	989	982	963	985	979
pH	units	5.42	6.12	5.78	5.89	6.02	5.69	5.87	4.72	5.48	5.76	5.59
Alkalinity	mg/L as $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Acidity	mg/L as $CaCO_3$	7	6	4	4	4	4	<2	8	4	3	4
Conductivity	µS/cm	23	20	16	18	16	18	14	40	16	16	16
SO_4	mg/L	4.4	3.0	3.0	2.8	3.2	2.7	3.2	6.0	2.8	2.9	3.1
Hg	mg/L	---	---	0.00001	---	---	---	---	< 0.00001	---	---	---
Ag	mg/L	---	---	< 0.00001	---	---	---	---	< 0.00001	---	---	---
Al	mg/L	---	---	0.06	---	---	---	---	0.07	---	---	---
As	mg/L	---	---	0.0002	---	---	---	---	0.0003	---	---	---
Ba	mg/L	---	---	0.129	---	---	---	---	0.128	---	---	---
Be	mg/L	---	---	0.00004	---	---	---	---	0.00002	---	---	---
B	mg/L	---	---	0.0004	---	---	---	---	< 0.0002	---	---	---
Bi	mg/L	---	---	< 0.00001	---	---	---	---	< 0.00001	---	---	---
Ca	mg/L	---	---	1.09	---	---	---	---	1.06	---	---	---
Cd	mg/L	---	---	0.000058	---	---	---	---	0.000051	---	---	---
Co	mg/L	---	---	0.000532	---	---	---	---	0.000527	---	---	---
Cr	mg/L	---	---	< 0.0005	---	---	---	---	< 0.0005	---	---	---
Cu	mg/L	---	---	1.57	---	---	---	---	1.60	---	---	---
Fe	mg/L	---	---	0.027	---	---	---	---	0.005	---	---	---
K	mg/L	---	---	0.135	---	---	---	---	0.142	---	---	---
Li	mg/L	---	---	< 0.001	---	---	---	---	< 0.001	---	---	---
Mg	mg/L	---	---	0.007	---	---	---	---	0.007	---	---	---
Mn	mg/L	---	---	0.00142	---	---	---	---	0.00150	---	---	---
Mo	mg/L	---	---	0.00062	---	---	---	---	0.00065	---	---	---
Na	mg/L	---	---	0.01	---	---	---	---	0.01	---	---	---
Ni	mg/L	---	---	0.0009	---	---	---	---	0.0007	---	---	---
Pb	mg/L	---	---	0.00003	---	---	---	---	0.00002	---	---	---
Sb	mg/L	---	---	< 0.0002	---	---	---	---	0.0002	---	---	---
Se	mg/L	---	---	< 0.001	---	---	---	---	< 0.001	---	---	---
Si	mg/L	---	---	0.14	---	---	---	---	0.15	---	---	---
Sn	mg/L	---	---	0.00099	---	---	---	---	0.00104	---	---	---
Sr	mg/L	---	---	0.0012	---	---	---	---	0.0010	---	---	---
Ti	mg/L	---	---	< 0.0001	---	---	---	---	< 0.0001	---	---	---
Tl	mg/L	---	---	0.00007	---	---	---	---	< 0.00002	---	---	---
U	mg/L	---	---	0.000005	---	---	---	---	0.000013	---	---	---
V	mg/L	---	---	< 0.00003	---	---	---	---	< 0.00003	---	---	---
W	mg/L	---	---	< 0.00003	---	---	---	---	0.00003	---	---	---
Y	mg/L	---	---	0.000032	---	---	---	---	0.000033	---	---	---
Zn	mg/L	---	---	0.017	---	---	---	---	0.017	---	---	---

Test Specimen

Sample	Weight (g
Cyclone U/F - Untreated	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	199	200	201	202
LIMS		10007-APR13	10051-APR13	10123-APR13	10168-APR13
Hum Cell Leachate Vol	mLs	979	992	976	983
pH	units	5.25	5.84	5.89	5.21
Alkalinity	mg/L as $CaCO_3$	<2	<2	<2	<2
Acidity	mg/L as $CaCO_3$	5	5	2	5
Conductivity	µS/cm	19	15	16	17
SO_4	mg/L	3.0	3.3	5.9	4.8
Hg	mg/L	---	< 0.00001	---	---
Ag	mg/L	---	< 0.00001	---	---
Al	mg/L	---	0.06	---	---
As	mg/L	---	0.0002	---	---
Ba	mg/L	---	0.133	---	---
Be	mg/L	---	0.00004	---	---
B	mg/L	---	< 0.0002	---	---
Bi	mg/L	---	< 0.00001	---	---
Ca	mg/L	---	1.18	---	---
Cd	mg/L	---	0.000056	---	---
Co	mg/L	---	0.000578	---	---
Cr	mg/L	---	< 0.0005	---	---
Cu	mg/L	---	1.71	---	---
Fe	mg/L	---	< 0.003	---	---
K	mg/L	---	0.152	---	---
Li	mg/L	---	< 0.001	---	---
Mg	mg/L	---	0.007	---	---
Mn	mg/L	---	0.00162	---	---
Mo	mg/L	---	0.00072	---	---
Na	mg/L	---	0.02	---	---
Ni	mg/L	---	0.0017	---	---
Pb	mg/L	---	0.00004	---	---
Sb	mg/L	---	< 0.0002	---	---
Se	mg/L	---	< 0.001	---	---
Si	mg/L	---	0.17	---	---
Sn	mg/L	---	0.00110	---	---
Sr	mg/L	---	0.0010	---	---
Ti	mg/L	---	< 0.0001	---	---
Tl	mg/L	---	< 0.00002	---	---
U	mg/L	---	0.000009	---	---
V	mg/L	---	< 0.00003	---	---
W	mg/L	---	< 0.00003	---	---
Y	mg/L	---	0.000033	---	---
Zn	mg/L	---	0.018	---	---

TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Test Specimen

Sample	Weight (g)
Cyclone U/F - Untreated	1000

Summary of ABA Test Data

Parameter	Units	Reference No.: 11249-MAY09
Sulphur (S)	%	0.220
Sulphide ($S^{=}$)	%	0.21
NP	t $CaCO_3$/1000 t	4.0
CO_3 NP	t $CaCO_3$/1000 t	0.42

Leachate Paremeters Measured | ***Acid Generation*** [1] | ***Acid Neutralization*** [1]

Weekly Leach No.	Volume Collected mL	pH units	Acidity $CaCO_3$ eq. mg/L	Alkalinity $CaCO_3$ eq. mg/L	Conductivity µmhos/cm	SO_4 mg/L	SO_4 Production Rate g/t/wk	Cumulative SO_4 Production g/t	Weekly S= Depletion %	Cumulative S= Depletion %	NP Consumption $CaCO_3$, g/t/wk	Cumulative NP Depletion %	Cumulative CO_3 NP Depletion %
0	516	7.15	<2	5	265	100	51.6	51.6	0.82	0.82	53.75	1.34	12.80
1	974	7.41	<2	16	92	22	21.4	73.0	0.34	1.16	22.32	1.90	18.11
2	987	7.39	<2	15	62	8.8	8.7	81.7	0.14	1.30	9.05	2.13	20.27
3	983	7.52	<2	14	55	7.6	7.5	89.2	0.12	1.42	7.78	2.32	22.12
4	988	7.33	<2	14	49	7.4	7.3	96.5	0.12	1.53	7.62	2.51	23.93
5	965	7.26	<2	13	12	7.0	6.8	103.3	0.11	1.64	7.04	2.69	25.61
6	994	7.05	<2	13	48	6.0	6.0	109.2	0.09	1.73	6.21	2.84	27.09
7	995	6.94	<2	12	45	6.2	6.2	115.4	0.10	1.83	6.43	3.00	28.62
8	971	7.26	<2	12	42	5.7	5.5	120.9	0.09	1.92	5.77	3.15	29.99
9	992	7.29	<2	10	36	4.7	4.7	125.6	0.07	1.99	4.86	3.27	31.15
10	989	6.99	<2	9	35	5.1	5.0	130.6	0.08	2.07	5.25	3.40	32.40
11	981	6.93	<2	9	35	4.6	4.5	135.1	0.07	2.15	4.70	3.52	33.52
12	992	6.55	<2	8	32	4.2	4.2	139.3	0.07	2.21	4.34	3.63	34.55
13	842	6.91	<2	6	26	4.0	3.4	142.7	0.05	2.26	3.51	3.72	35.38
14	914	6.69	<2	6	24	4.0	3.7	146.3	0.06	2.32	3.81	3.81	36.29
15	860	6.98	<2	6	23	3.9	3.4	149.7	0.05	2.38	3.49	3.90	37.12
16	880	7.07	<2	6	22	3.6	3.2	152.8	0.05	2.43	3.30	3.98	37.91
17	907	6.87	<2	4	22	3.5	3.2	156.0	0.05	2.48	3.31	4.06	38.70
18	888	6.94	<2	4	20	3.2	2.8	158.9	0.05	2.52	2.96	4.14	39.40
19	902	6.91	<2	3	22	3.7	3.3	162.2	0.05	2.57	3.48	4.22	40.23
20	894	6.60	<2	3	20	3.8	3.4	165.6	0.05	2.63	3.54	4.31	41.07

** Initial Week 0 leachate may included soluble sulphate, and may not indicate oxidation of sulphide in the sample material has occurred.*

[1] *Calculated values*

Summary - Weeks 0 to 20

Maximum Value	7.52	2	16	265	100	51.6	-	0.82	-	54	-	-
Minimum Value	6.55	<2	3	12	3.2	2.8	-	0.05	-	3.0	-	-
Average Value	6.97	2	9	47	10	7.9	-	0.13	-	8.21	-	-

TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Test Specimen

Sample	Weight (g)
Cyclone U/F - Untreated	1000

Changes to Head Sample after 20 Weeks [1]

Parameter	Units	Reference No.: 11249-MAY09
Sulphide ($S^{=}$) Remaining	%	0.20
NP Remaining	t $CaCO_3$/1000 t	3.8
CO_3 NP Remaining	t $CaCO_3$/1000 t	0.25

Leachate Paremeters Measured | ***Acid Generation*** [1] | ***Acid Neutralization*** [1]

Weekly Leach No.	Volume Collected mL	pH units	Acidity $CaCO_3$ eq. mg/L	Alkalinity $CaCO_3$ eq. mg/L	Conductivity µmhos/cm	SO_4 mg/L	SO_4 Production Rate g/t/wk	Cumulative SO_4 Production g/t	Weekly S= Depletion %	Cumulative S= Depletion %	NP Consumption $CaCO_3$, g/t/wk	Cumulative NP Depletion %	Cumulative CO_3 NP Depletion %
21	992	6.76	<2	3	20	3.6	3.6	169.2	0.06	2.69	3.72	4.41	41.96
22	850	6.36	2	<2	16	3.2	2.7	171.9	0.04	2.73	2.83	4.48	42.63
23	908	6.64	<2	2	18	4.0	3.6	175.5	0.06	2.79	3.78	4.57	43.53
24	865	6.35	2	<2	18	3.9	3.4	178.9	0.05	2.84	3.51	4.66	44.37
25	903	6.41	<2	<2	15	3.6	3.3	182.1	0.05	2.89	3.39	4.74	45.18
26	857	6.23	2	<2	16	3.1	2.7	184.8	0.04	2.93	2.77	4.81	45.83
27	914	6.38	3	<2	17	3.6	3.3	188.1	0.05	2.99	3.43	4.90	46.65
28	878	6.33	<2	<2	16	3.5	3.1	191.2	0.05	3.03	3.20	4.98	47.41
29	994	6.45	<2	<2	18	3.4	3.4	194.5	0.05	3.09	3.52	5.07	48.25
30	849	6.35	3	2	16	3.8	3.2	197.8	0.05	3.14	3.36	5.15	49.05
31	1000	6.30	<2	<2	19	3.9	3.9	201.7	0.06	3.20	4.06	5.25	50.02
32	977	6.17	<2	<2	18	3.6	3.5	205.2	0.06	3.26	3.66	5.34	50.89
33	931	6.28	<2	<2	18	3.4	3.2	208.4	0.05	3.31	3.30	5.43	51.68
34	993	6.61	<2	3	21	4.0	4.0	212.3	0.06	3.37	4.14	5.53	52.66
35	862	6.12	<2	<2	18	3.8	3.3	215.6	0.05	3.42	3.41	5.61	53.47
36	981	6.20	2	<2	20	4.1	4.0	219.6	0.06	3.49	4.19	5.72	54.47
37	984	6.08	3	<2	20	5.1	5.0	224.6	0.08	3.57	5.23	5.85	55.72
38	991	5.87	3	<2	20	4.4	4.4	229.0	0.07	3.63	4.54	5.96	56.80
39	989	6.03	5	<2	20	5.3	5.2	234.2	0.08	3.72	5.46	6.10	58.10
40	991	6.15	3	<2	21	5.2	5.2	239.4	0.08	3.80	5.37	6.23	59.37

[1] *Calculated values*

Summary - Weeks 0 to 40

Maximum Value	7.52	5	16	265	100	51.6	-	0.08	-	54	-	-
Minimum Value	5.87	<2	<2	12	3.1	2.7	-	0.04	-	2.8	-	-
Average Value	6.49	2	6	33	7.3	5.8	-	0.09	-	6.08	-	-

TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Test Specimen

Sample	Weight (g)
Cyclone U/F - Untreated	1000

Changes to Head Sample after 40 Weeks [1]

Parameter	Units	Reference No.: 11249-MAY09
Sulphide ($S^{=}$) Remaining	%	0.20
NP Remaining	t $CaCO_3$/1000 t	3.8
CO_3 NP Remaining	t $CaCO_3$/1000 t	0.17

Leachate Paremeters Measured

Weekly Leach No.	Volume Collected mL	pH units	Acidity $CaCO_3$ eq. mg/L	Alkalinity $CaCO_3$ eq. mg/L	Conductivity µmhos/cm	SO_4 mg/L
41	930	5.93	3	<2	19	4.5
42	998	5.94	4	<2	19	4.0
43	982	5.93	4	<2	19	4.5
44	849	5.70	5	<2	20	4.5
45	1003	6.04	3	<2	23	5.3
46	979	6.06	5	<2	20	6.1
47	928	5.95	5	<2	25	6.7
48	883	6.05	3	<2	19	3.6
49	880	5.92	4	<2	17	3.8
50	884	6.07	3	<2	19	3.9
51	845	5.86	4	<2	16	6.7
52	923	5.88	4	<2	18	3.8
53	883	5.84	4	<2	17	4.1
54	874	5.76	4	<2	18	5.2
55	942	5.93	3	<2	18	3.5
56	864	5.72	4	<2	15	3.3
57	911	5.93	4	<2	18	4.5
58	886	5.56	3	<2	17	4.3
59	848	5.78	5	<2	16	3.2
60	878	5.57	4	<2	14	3.2

Acid Generation [1]

SO_4 Production Rate g/t/wk	Cumulative SO_4 Production g/t	Weekly S= Depletion %	Cumulative S= Depletion %
4.2	243.6	0.07	3.87
4.0	247.6	0.06	3.93
4.4	252.0	0.07	4.00
3.8	255.8	0.06	4.06
5.3	261.1	0.08	4.14
6.0	267.1	0.09	4.24
6.2	273.3	0.10	4.34
3.2	276.5	0.05	4.39
3.3	279.8	0.05	4.44
3.4	283.3	0.05	4.50
5.7	289.0	0.09	4.59
3.5	292.5	0.06	4.64
3.6	296.1	0.06	4.70
4.5	300.6	0.07	4.77
3.3	303.9	0.05	4.82
2.9	306.8	0.05	4.87
4.1	310.9	0.07	4.93
3.8	314.7	0.06	4.99
2.7	317.4	0.04	5.04
2.8	320.2	0.04	5.08

Acid Neutralization [1]

NP Consumption $CaCO_3$, g/t/wk	Cumulative NP Depletion %	Cumulative CO_3 NP Depletion %
4.36	6.34	60.41
4.16	6.45	61.40
4.60	6.56	62.50
3.98	6.66	63.45
5.54	6.80	64.76
6.22	6.96	66.25
6.48	7.12	67.79
3.31	7.20	68.58
3.48	7.29	69.41
3.59	7.38	70.26
5.90	7.52	71.67
3.65	7.62	72.53
3.77	7.71	73.43
4.73	7.83	74.56
3.43	7.91	75.38
2.97	7.99	76.08
4.27	8.10	77.10
3.97	8.19	78.05
2.83	8.27	78.72
2.93	8.34	79.42

[1] *Calculated values*

Summary - Weeks 0 to 60

Maximum Value	7.52	5	16	265	100	51.6	-	0.10	-	53.75	-	-
Minimum Value	5.56	<2	<2	12	3.1	2.7	-	0.04	-	2.77	-	-
Average Value	6.16	3	4	28	6.3	5.2	-	0.08	-	5.47	-	-

TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Test Specimen

Sample	Weight (g)
Cyclone U/F - Untreated	1000

Changes to Head Sample after 60 Weeks [1]

Parameter	Units	Reference No.: 11249-MAY09
Sulphide ($S^{=}$) Remaining	%	0.20
NP Remaining	t $CaCO_3$/1000 t	3.7
CO_3 NP Remaining	t $CaCO_3$/1000 t	0.09

Leachate Paremeters Measured

Weekly Leach No.	Volume Collected mL	pH units	Acidity $CaCO_3$ eq. mg/L	Alkalinity $CaCO_3$ eq. mg/L	Conductivity µmhos/cm	SO_4 mg/L
61	961	5.83	5	<2	17	4.1
62	855	5.74	4	<2	14	5.2
63	873	5.67	4	<2	15	3.7
64	916	5.73	5	<2	17	4.8
65	870	5.70	5	<2	15	3.6
66	860	5.77	4	<2	17	6.0
67	921	5.37	4	<2	18	4.4
68	915	5.67	5	<2	17	4.1
69	875	5.76	5	<2	14	4.5
70	916	5.67	5	<2	16	4.1
71	904	5.74	5	<2	15	3.8
72	888	5.51	6	<2	16	4.1
73	872	5.80	5	<2	15	3.4
74	858	5.68	5	<2	17	4.0
75	862	5.76	6	<2	17	4.0
76	877	5.96	5	<2	25	6.8
77	845	5.88	5	<2	18	6.0
78	993	5.77	6	<2	20	4.4
79	912	6.03	3	<2	20	4.1
80	927	5.78	6	<2	17	5.7

Acid Generation [1]

SO_4 Production Rate g/t/wk	Cumulative SO_4 Production g/t	Weekly S= Depletion %	Cumulative S= Depletion %
3.9	324.1	0.06	5.15
4.4	328.6	0.07	5.22
3.2	331.8	0.05	5.27
4.4	336.2	0.07	5.34
3.1	339.4	0.05	5.39
5.2	344.5	0.08	5.47
4.1	348.6	0.06	5.53
3.8	352.3	0.06	5.59
3.9	356.3	0.06	5.65
3.8	360.0	0.06	5.71
3.4	363.4	0.05	5.77
3.6	367.1	0.06	5.83
3.0	370.0	0.05	5.87
3.4	373.5	0.05	5.93
3.4	376.9	0.05	5.98
6.0	382.9	0.09	6.08
5.1	388.0	0.08	6.16
4.4	392.3	0.07	6.23
3.7	396.1	0.06	6.29
5.3	401.4	0.08	6.37

Acid Neutralization [1]

NP Consumption $CaCO_3$, g/t/wk	Cumulative NP Depletion %	Cumulative CO_3 NP Depletion %
4.10	8.44	80.39
4.63	8.56	81.50
3.36	8.64	82.30
4.58	8.76	83.39
3.26	8.84	84.16
5.38	8.97	85.44
4.22	9.08	86.45
3.91	9.17	87.38
4.10	9.28	88.36
3.91	9.38	89.29
3.58	9.46	90.14
3.79	9.56	91.04
3.09	9.64	91.78
3.58	9.73	92.63
3.59	9.82	93.48
6.21	9.97	94.96
5.28	10.10	96.22
4.55	10.22	97.30
3.90	10.31	98.23
5.50	10.45	99.54

[1] *Calculated values*

Summary - Weeks 0 to 80

Maximum Value	7.52	6	16	265	100	51.6	-	0.10	-	54	-	-
Minimum Value	5.37	<2	<2	12	3.1	2.7	-	0.04	-	2.8	-	-
Average Value	6.00	3	4	25	5.9	5.0	-	0.08	-	5.16	-	-

TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Test Specimen

Sample	Weight (g)
Cyclone U/F - Untreated	1000

Changes to Head Sample after 80 Weeks [1]

Parameter	Units	Reference No.: 11249-MAY09
Sulphide ($S^{=}$) Remaining	%	0.20
NP Remaining	t $CaCO_3$/1000 t	3.6
CO_3 NP Remaining	t $CaCO_3$/1000 t	0.00

Leachate Paremeters Measured

Weekly Leach No.	Volume Collected mL	pH units	Acidity $CaCO_3$ eq. mg/L	Alkalinity $CaCO_3$ eq. mg/L	Conductivity µmhos/cm	SO_4 mg/L
81	860	5.53	6	<2	17	4.0
82	959	5.74	5	<2	17	3.7
83	987	5.91	6	<2	20	5.4
84	976	5.94	5	<2	18	4.6
85	890	5.82	5	<2	17	3.4
86	984	5.77	5	<2	16	4.0
87	982	5.79	5	<2	16	4.5
88	979	5.74	5	<2	21	3.5
89	992	5.73	4	<2	15	3.4
90	993	5.82	4	<2	14	5.1
91	964	5.84	<2	<2	14	5.1
92	917	5.64	6	<2	4	4.9
93	977	5.77	6	<2	4	4.4
94	980	5.53	6	<2	19	4.4
95	990	5.90	5	<2	18	4.6
96	988	5.82	5	<2	4	4.4
97	958	5.76	5	<2	14	4.6
98	989	5.81	5	<2	12	3.6
99	994	5.87	4	<2	4	3.7
100	955	5.82	5	<2	14	4.3

Acid Generation [1]

SO_4 Production Rate g/t/wk	Cumulative SO_4 Production g/t	Weekly S= Depletion %	Cumulative S= Depletion %
3.4	404.8	0.05	6.43
3.5	408.3	0.06	6.48
5.3	413.7	0.08	6.57
4.5	418.2	0.07	6.64
3.0	421.2	0.05	6.69
3.9	425.1	0.06	6.75
4.4	429.5	0.07	6.82
3.4	433.0	0.05	6.87
3.4	436.3	0.05	6.93
5.1	441.4	0.08	7.01
4.9	446.3	0.08	7.08
4.5	450.8	0.07	7.16
4.3	455.1	0.07	7.22
4.3	459.4	0.07	7.29
4.6	464.0	0.07	7.36
4.3	468.3	0.07	7.43
4.4	472.7	0.07	7.50
3.6	476.3	0.06	7.56
3.7	480.0	0.06	7.62
4.1	484.1	0.07	7.68

Acid Neutralization [1]

NP Consumption $CaCO_3$, g/t/wk	Cumulative NP Depletion %	Cumulative CO_3 NP Depletion %
3.58	10.54	100.40
3.70	10.63	101.28
5.55	10.77	102.60
4.68	10.89	103.71
3.15	10.97	104.46
4.10	11.07	105.44
4.60	11.19	106.53
3.57	11.28	107.38
3.51	11.36	108.22
5.28	11.49	109.48
5.12	11.62	110.70
4.68	11.74	111.81
4.48	11.85	112.88
4.49	11.96	113.95
4.74	12.08	115.07
4.53	12.20	116.15
4.59	12.31	117.25
3.71	12.40	118.13
3.83	12.50	119.04
4.28	12.61	120.06

[1] *Calculated values*

Summary - Weeks 0 to 100

Maximum Value	7.52	6	16	265	100	51.6	-	0.10	-	54	-	-
Minimum Value	5.37	<2	<2	4	3.1	2.7	-	0.04	-	2.8	-	-
Average Value	5.94	4	3	23	5.6	4.8	-	0.08	-	4.99	-	-

TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Test Specimen

Sample	Weight (g)
Cyclone U/F - Untreated	1000

Changes to Head Sample after 100 Weeks [1]

Parameter	Units	Reference No.: 11249-MAY09
Sulphide ($S^{=}$) Remaining	%	0.19
NP Remaining	t $CaCO_3$/1000 t	3.5
CO_3 NP Remaining	t $CaCO_3$/1000 t	-0.08

Leachate Paremeters Measured

Weekly Leach No.	Volume Collected mL	pH units	Acidity $CaCO_3$ eq. mg/L	Alkalinity $CaCO_3$ eq. mg/L	Conductivity µmhos/cm	SO_4 mg/L
101	980	5.74	4	<2	16	4.0
102	957	5.95	4	<2	15	3.6
103	977	5.91	6	<2	16	4.9
104	977	5.68	6	<2	17	4.3
105	988	5.93	4	<2	16	3.7
106	990	5.83	5	<2	15	3.8
107	992	5.71	5	<2	16	3.7
108	979	5.65	5	<2	15	3.7
109	983	5.72	4	<2	16	4.0
110	989	5.86	4	<2	13	3.7
111	942	5.76	3	<2	15	3.2
112	994	5.80	3	<2	14	4.6
113	977	5.86	3	<2	10	3.6
114	970	5.77	4	<2	12	3.7
115	986	5.72	4	<2	14	3.1
116	977	5.74	3	<2	15	3.2
117	966	5.79	4	<2	11	4.5
118	964	5.87	2	<2	14	2.8
119	969	5.75	3	<2	15	4.3
120	984	5.74	<2	<2	3	4.4

Acid Generation [1]

SO_4 Production Rate g/t/wk	Cumulative SO_4 Production g/t	Weekly S= Depletion %	Cumulative S= Depletion %
3.9	488.0	0.06	7.75
3.4	491.4	0.05	7.80
4.8	496.2	0.08	7.88
4.2	500.4	0.07	7.94
3.7	504.1	0.06	8.00
3.8	507.9	0.06	8.06
3.7	511.5	0.06	8.12
3.6	515.1	0.06	8.18
3.9	519.1	0.06	8.24
3.7	522.7	0.06	8.30
3.0	525.8	0.05	8.35
4.6	530.3	0.07	8.42
3.5	533.8	0.06	8.47
3.6	537.4	0.06	8.53
3.1	540.5	0.05	8.58
3.1	543.6	0.05	8.63
4.3	548.0	0.07	8.70
2.7	550.7	0.04	8.74
4.2	554.8	0.07	8.81
4.3	559.2	0.07	8.88

Acid Neutralization [1]

NP Consumption $CaCO_3$, g/t/wk	Cumulative NP Depletion %	Cumulative CO_3 NP Depletion %
4.08	12.71	121.03
3.59	12.80	121.89
4.99	12.92	123.07
4.38	13.03	124.12
3.81	13.13	125.02
3.92	13.23	125.96
3.82	13.32	126.87
3.77	13.42	127.76
4.10	13.52	128.74
3.81	13.61	129.65
3.14	13.69	130.39
4.76	13.81	131.53
3.66	13.90	132.40
3.74	14.00	133.29
3.18	14.08	134.05
3.26	14.16	134.82
4.53	14.27	135.90
2.81	14.34	136.57
4.34	14.45	137.61
4.51	14.56	138.68

[1] *Calculated values*

Summary - Weeks 0 to 120

	pH	Acidity	Alkalinity	Conductivity	SO_4	SO_4 Production Rate	Cumulative SO_4 Production	Weekly S= Depletion	Cumulative S= Depletion	NP Consumption	Cumulative NP Depletion	Cumulative CO_3 NP Depletion
Maximum Value	7.52	6	16	265	100	51.6	-	0.10	-	54	-	-
Minimum Value	5.37	<2	<2	3	2.8	2.7	-	0.04	-	2.8	-	-
Average Value	5.91	4	3	22	5.3	4.6	-	0.07	-	4.81	-	-

TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Test Specimen

Sample	Weight (g)
Cyclone U/F - Untreated	1000

Changes to Head Sample after 120 Weeks [1]

Parameter	Units	Reference No.: 11249-MAY09
Sulphide ($S^{=}$) Remaining	%	0.19
NP Remaining	t $CaCO_3$/1000 t	3.4
CO_3 NP Remaining	t $CaCO_3$/1000 t	-0.16

Leachate Paremeters Measured

Weekly Leach No.	Volume Collected mL	pH units	Acidity $CaCO_3$ eq. mg/L	Alkalinity $CaCO_3$ eq. mg/L	Conductivity µmhos/cm	SO_4 mg/L
121	977	5.50	4	<2	15	2.9
122	972	5.63	<2	<2	13	4.0
123	975	5.56	5	<2	20	2.8
124	974	5.75	3	<2	10	4.9
125	981	5.86	3	<2	12	3.2
126	972	5.70	4	<2	9	3.0
127	982	5.73	4	<2	12	4.0
128	1003	5.54	6	<2	3	3.1
129	966	5.61	5	<2	14	3.2
130	983	5.80	4	<2	14	4.2
131	985	5.69	2	<2	14	3.3
132	969	5.32	<2	3	23	3.4
133	971	5.81	3	<2	15	4.0
134	993	5.78	4	<2	12	3.7
135	962	5.67	4	<2	15	3.5
136	967	5.76	5	<2	11	3.3
137	970	5.79	4	<2	13	3.3
138	979	5.64	4	<2	11	3.7
139	988	5.47	5	<2	14	4.0
140	964	5.75	4	<2	19	3.5

Acid Generation [1]

SO_4 Production Rate g/t/wk	Cumulative SO_4 Production g/t	Weekly S= Depletion %	Cumulative S= Depletion %
2.8	562.0	0.04	8.92
3.9	565.9	0.06	8.98
2.7	568.6	0.04	9.03
4.8	573.4	0.08	9.10
3.1	576.5	0.05	9.15
2.9	579.4	0.05	9.20
3.9	583.4	0.06	9.26
3.1	586.5	0.05	9.31
3.1	589.6	0.05	9.36
4.1	593.7	0.07	9.42
3.3	596.9	0.05	9.48
3.3	600.2	0.05	9.53
3.9	604.1	0.06	9.59
3.7	607.8	0.06	9.65
3.4	611.2	0.05	9.70
3.2	614.4	0.05	9.75
3.2	617.6	0.05	9.80
3.6	621.2	0.06	9.86
4.0	625.1	0.06	9.92
3.4	628.5	0.05	9.98

Acid Neutralization [1]

NP Consumption $CaCO_3$, g/t/wk	Cumulative NP Depletion %	Cumulative CO_3 NP Depletion %
2.95	14.64	139.38
4.05	14.74	140.35
2.84	14.81	141.02
4.97	14.93	142.21
3.27	15.01	142.99
3.04	15.09	143.71
4.09	15.19	144.68
3.24	15.27	145.45
3.22	15.35	146.22
4.30	15.46	147.24
3.39	15.55	148.05
3.43	15.63	148.87
4.05	15.73	149.83
3.83	15.83	150.74
3.51	15.92	151.58
3.32	16.00	152.37
3.33	16.08	153.16
3.77	16.18	154.06
4.12	16.28	155.04
3.51	16.37	155.88

[1] *Calculated values*

Summary - Weeks 0 to 140

Maximum Value	7.52	6	16	265	100	51.6	-	0.10	-	54	-	-
Minimum Value	5.32	<2	<2	3	2.8	2.7	-	0.04	-	2.8	-	-
Average Value	5.86	4	3	20	5.0	4.5	-	0.07	-	4.64	-	-

TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Test Specimen

Sample	Weight (g)
Cyclone U/F - Untreated	1000

Changes to Head Sample after 160 Weeks [1]

Parameter	Units	Reference No.: 11249-MAY09
Sulphide ($S^{=}$) Remaining	%	0.19
NP Remaining	t $CaCO_3$/1000 t	3.3
CO_3 NP Remaining	t $CaCO_3$/1000 t	-0.23

Leachate Paremeters Measured

Weekly Leach No.	Volume Collected mL	pH units	Acidity $CaCO_3$ eq. mg/L	Alkalinity $CaCO_3$ eq. mg/L	Conductivity µmhos/cm	SO_4 mg/L
141	989	5.61	5	<2	15	3.7
142	950	5.73	6	<2	15	3.8
143	962	5.75	3	<2	15	6.3
144	953	5.43	4	<2	12	3.5
145	976	5.81	5	<2	12	3.7
146	962	5.97	<2	<2	16	5.5
147	982	5.72	4	<2	18	4.4
148	977	5.78	5	<2	15	3.7
149	979	5.71	8	<2	16	3.6
150	972	5.71	5	<2	12	3.6
151	979	5.89	5	<2	16	3.2
152	983	5.87	5	<2	15	3.4
153	985	5.94	5	<2	20	3.6
154	963	5.48	6	<2	14	3.4
155	982	5.61	6	<2	16	4.4
156	979	5.52	7	<2	17	4.7
157	973	5.55	4	<2	16	4.9
158	993	5.60	4	<2	17	4.9
159	955	5.59	4	<2	15	3.4
160	982	5.72	3	<2	18	3.4

Acid Generation [1]

SO_4 Production Rate g/t/wk	Cumulative SO_4 Production g/t	Weekly S= Depletion %	Cumulative S= Depletion %
3.7	632.2	0.06	10.03
3.6	635.8	0.06	10.09
6.1	641.8	0.10	10.19
3.3	645.2	0.05	10.24
3.6	648.8	0.06	10.30
5.3	654.1	0.08	10.38
4.3	658.4	0.07	10.45
3.6	662.0	0.06	10.51
3.5	665.5	0.06	10.56
3.5	669.0	0.06	10.62
3.1	672.2	0.05	10.67
3.3	675.5	0.05	10.72
3.5	679.0	0.06	10.78
3.3	682.3	0.05	10.83
4.3	686.6	0.07	10.90
4.6	691.2	0.07	10.97
4.8	696.0	0.08	11.05
4.9	700.9	0.08	11.13
3.2	704.1	0.05	11.18
3.3	707.5	0.05	11.23

Acid Neutralization [1]

NP Consumption $CaCO_3$, g/t/wk	Cumulative NP Depletion %	Cumulative CO_3 NP Depletion %
3.81	16.46	156.79
3.76	16.56	157.68
6.31	16.71	159.18
3.47	16.80	160.01
3.76	16.90	160.91
5.51	17.03	162.22
4.50	17.15	163.29
3.77	17.24	164.19
3.67	17.33	165.06
3.65	17.42	165.93
3.26	17.50	166.71
3.48	17.59	167.54
3.69	17.68	168.42
3.41	17.77	169.23
4.50	17.88	170.30
4.79	18.00	171.44
4.97	18.13	172.62
5.07	18.25	173.83
3.38	18.34	174.63
3.48	18.42	175.46

[1] *Calculated values*

Summary - Weeks 0 to 160

Maximum Value	7.52	8	16	265	100	51.6	-	0.10	-	54	-	-
Minimum Value	5.32	<2	<2	3	2.8	2.7	-	0.04	-	2.8	-	-
Average Value	5.84	4	3	20	4.9	4.4	-	0.07	-	4.58	-	-

TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Test Specimen

Sample	Weight (g)
Cyclone U/F - Untreated	1000

Changes to Head Sample after 180 Weeks [1]

Parameter	Units	Reference No.: 11249-MAY09
Sulphide ($S^{=}$) Remaining	%	0.19
NP Remaining	t $CaCO_3$/1000 t	3.3
CO_3 NP Remaining	t $CaCO_3$/1000 t	-0.32

Leachate Paremeters Measured

Weekly Leach No.	Volume Collected mL	pH units	Acidity $CaCO_3$ eq. mg/L	Alkalinity $CaCO_3$ eq. mg/L	Conductivity µmhos/cm	SO_4 mg/L
161	968	5.67	5	<2	20	4.3
162	986	5.78	3	<2	16	3.2
163	943	5.30	4	<2	18	3.3
164	974	5.65	7	<2	16	3.0
165	987	5.99	2	<2	17	4.3
166	945	5.95	4	<2	18	3.2
167	972	5.66	6	<2	21	3.3
168	990	5.76	3	<2	15	4.4
169	945	5.62	4	<2	16	4.2
170	984	5.37	4	<2	21	3.6
171	995	6.07	4	<2	24	3.8
172	923	5.97	4	<2	22	3.3
173	972	5.44	5	<2	25	3.0
174	966	6.18	<2	<2	14	2.7
175	989	5.75	4	<2	19	7.0
176	973	6.05	<2	<2	18	3.4
177	943	5.72	5	<2	25	3.6
178	980	5.81	3	<2	19	3.8
179	995	5.72	3	<2	16	3.1
180	993	5.80	<2	<2	17	3.5

Acid Generation [1]

SO_4 Production Rate g/t/wk	Cumulative SO_4 Production g/t	Weekly S= Depletion %	Cumulative S= Depletion %
4.2	711.6	0.07	11.30
3.2	714.8	0.05	11.35
3.1	717.9	0.05	11.40
2.9	720.8	0.05	11.44
4.2	725.1	0.07	11.51
3.0	728.1	0.05	11.56
3.2	731.3	0.05	11.61
4.4	735.6	0.07	11.68
4.0	739.6	0.06	11.74
3.5	743.2	0.06	11.80
3.8	746.9	0.06	11.86
3.0	750.0	0.05	11.90
2.9	752.9	0.05	11.95
2.6	755.5	0.04	11.99
6.9	762.4	0.11	12.10
3.3	765.7	0.05	12.15
3.4	769.1	0.05	12.21
3.7	772.9	0.06	12.27
3.1	775.9	0.05	12.32
3.5	779.4	0.06	12.37

Acid Neutralization [1]

NP Consumption $CaCO_3$, g/t/wk	Cumulative NP Depletion %	Cumulative CO_3 NP Depletion %
4.34	18.53	176.49
3.29	18.61	177.28
3.24	18.70	178.05
3.04	18.77	178.77
4.42	18.88	179.83
3.15	18.96	180.58
3.34	19.04	181.37
4.54	19.16	182.45
4.13	19.26	183.44
3.69	19.35	184.32
3.94	19.45	185.25
3.17	19.53	186.01
3.04	19.61	186.73
2.72	19.67	187.38
7.21	19.86	189.10
3.45	19.94	189.92
3.54	20.03	190.76
3.88	20.13	191.68
3.21	20.21	192.45
3.62	20.30	193.31

[1] *Calculated values*

Summary - Weeks 0 to 180

Maximum Value	7.52	8	16	265	100	51.6	-	0.11	-	54	-	-
Minimum Value	5.30	<2	<2	3	2.7	2.6	-	0.04	-	2.7	-	-
Average Value	5.82	4	3	20	4.8	4.3	-	0.07	-	4.49	-	-

TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Test Specimen

Sample	Weight (g)
Cyclone U/F - Untreated	1000

Changes to Head Sample after 180 Weeks [4]

Parameter	Units	Reference No.: 11249-MAY09
Sulphide ($S^{=}$) Remaining	%	0.18
NP Remaining	t $CaCO_3$/1000 t	3.2
CO_3 NP Remaining	t $CaCO_3$/1000 t	-0.39

Leachate Paremeters Measured

Weekly Leach No.	Volume Collected mL	pH units	Acidity $CaCO_3$ eq. mg/L	Alkalinity $CaCO_3$ eq. mg/L	Conductivity µmhos/cm	SO_4 mg/L
181	984	5.92	2	<2	17	3.0
182	990	5.93	3	<2	17	3.9
183	981	5.80	5	<2	20	5.0
184	988	5.51	4	<2	18	3.1
185	957	5.26	4	<2	16	3.3
186	985	5.71	5	<2	20	3.4
187	986	5.76	7	<2	19	2.9
188	984	5.42	7	<2	23	4.4
189	981	6.12	6	<2	20	3.0
190	949	5.78	4	<2	16	3.0
191	982	5.89	4	<2	18	2.8
192	983	6.02	4	<2	16	3.2
193	950	5.69	4	<2	18	2.7
194	989	5.87	<2	<2	14	3.2
195	982	4.72	8	<2	40	6.0
196	963	5.48	4	<2	16	2.8
197	985	5.76	3	<2	16	2.9
198	979	5.59	4	<2	16	3.1
199	979	5.25	5	<2	19	3.0
200	992	5.84	5	<2	15	3.3
201	976	5.89	2	<2	16	5.9
202	983	5.21	5	<2	17	4.8

Acid Generation [4]

SO_4 Production Rate g/t/wk	Cumulative SO_4 Production g/t	Weekly S= Depletion %	Cumulative S= Depletion %
3.0	782.4	0.05	12.42
3.9	786.2	0.06	12.48
4.9	791.1	0.08	12.56
3.1	794.2	0.05	12.61
3.2	797.4	0.05	12.66
3.3	800.7	0.05	12.71
2.9	803.6	0.05	12.76
4.3	807.9	0.07	12.82
2.9	810.8	0.05	12.87
2.8	813.7	0.05	12.92
2.7	816.4	0.04	12.96
3.1	819.6	0.05	13.01
2.6	822.1	0.04	13.05
3.2	825.3	0.05	13.10
5.9	831.2	0.09	13.19
2.7	833.9	0.04	13.24
2.9	836.8	0.05	13.28
3.0	839.8	0.05	13.33
2.9	842.7	0.05	13.38
3.3	846.0	0.05	13.43
5.8	851.8	0.09	13.52
4.7	856.5	0.07	13.59

Acid Neutralization [1]

NP Consumption $CaCO_3$, g/t/wk	Cumulative NP Depletion %	Cumulative CO_3 NP Depletion %
3.08	20.37	194.04
4.02	20.47	195.00
5.11	20.60	196.21
3.19	20.68	196.97
3.29	20.76	197.76
3.49	20.85	198.59
2.98	20.93	199.30
4.51	21.04	200.37
3.07	21.12	201.10
2.97	21.19	201.81
2.86	21.26	202.49
3.28	21.34	203.27
2.67	21.41	203.91
3.30	21.49	204.69
6.14	21.65	206.15
2.81	21.72	206.82
2.98	21.79	207.53
3.16	21.87	208.28
3.06	21.95	209.01
3.41	22.03	209.82
6.00	22.18	211.25
4.92	22.30	212.42

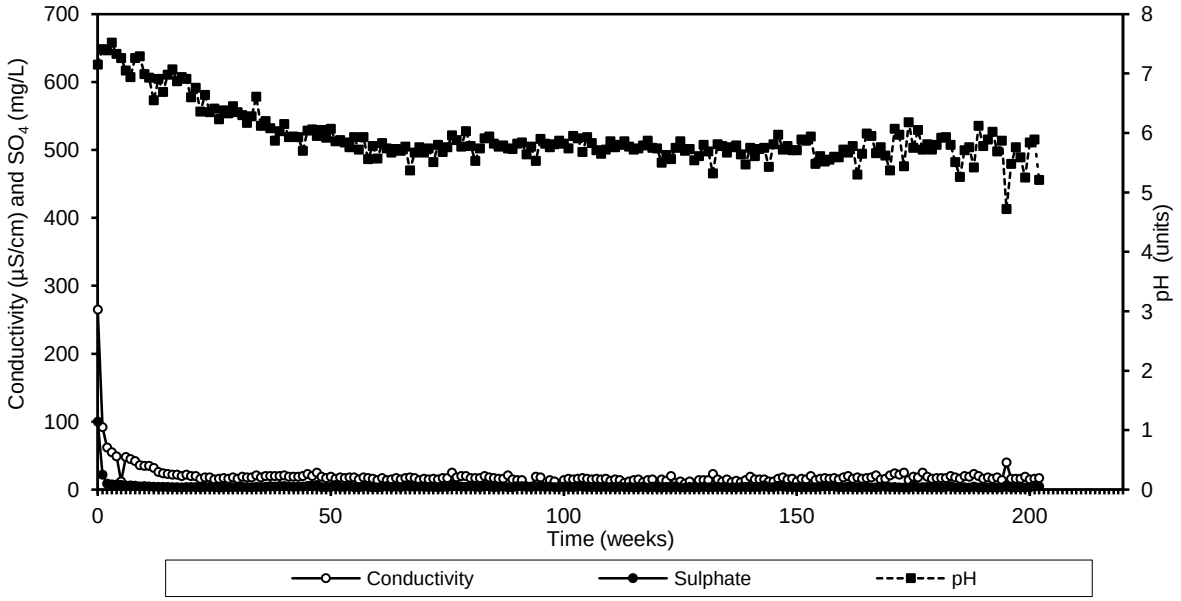
Summary - Weeks 0 to 200

Maximum Value	7.52	8	16	265	100	51.6	-	0.11	-	54	-	-
Minimum Value	4.72	<2	<2	3	2.7	2.6	-	0.04	-	2.7	-	-
Average Value	5.78	4	3	20	4.6	4.2	-	0.07	-	4.4	-	-

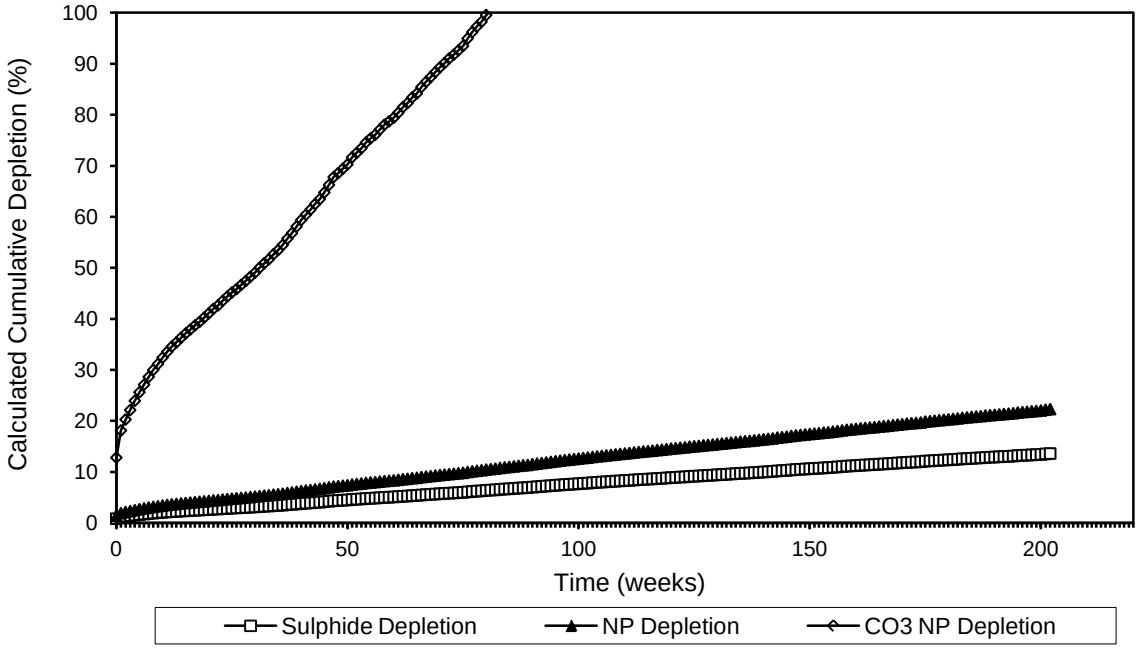
TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Conductivity, Sulphate, and pH in Weekly Humidity Cell Leachate - Cyclone U/F - Untreated



Cumulative Sulphide and NP Depletion Cyclone U/F - Untreated

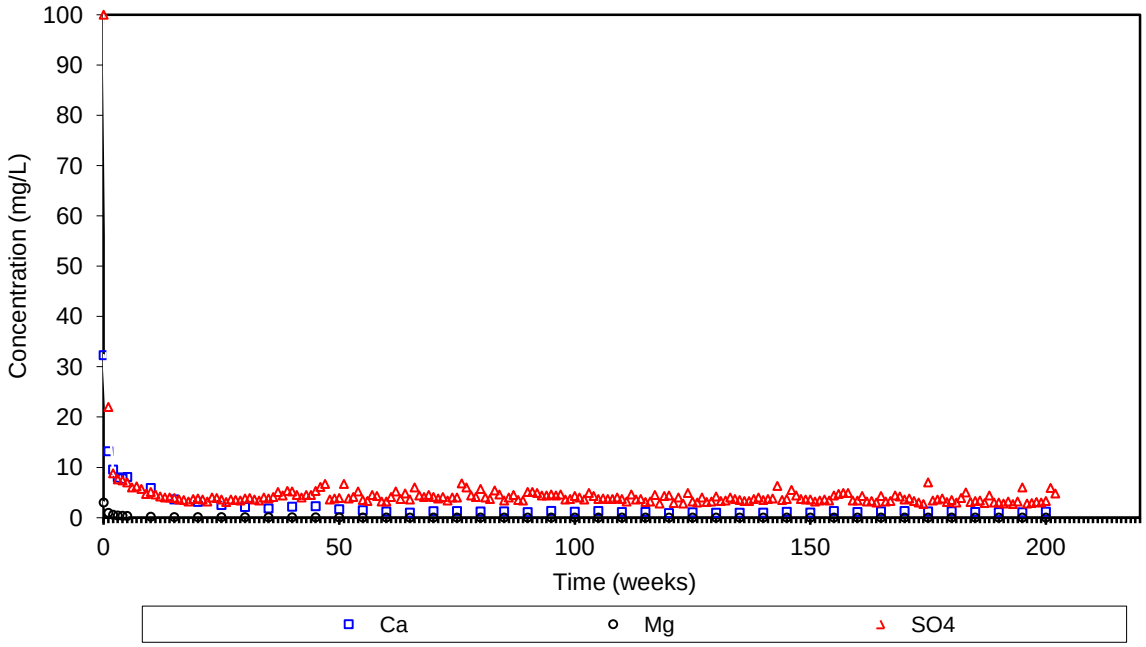


Note: NP depletion calculated based on sulphate assay.

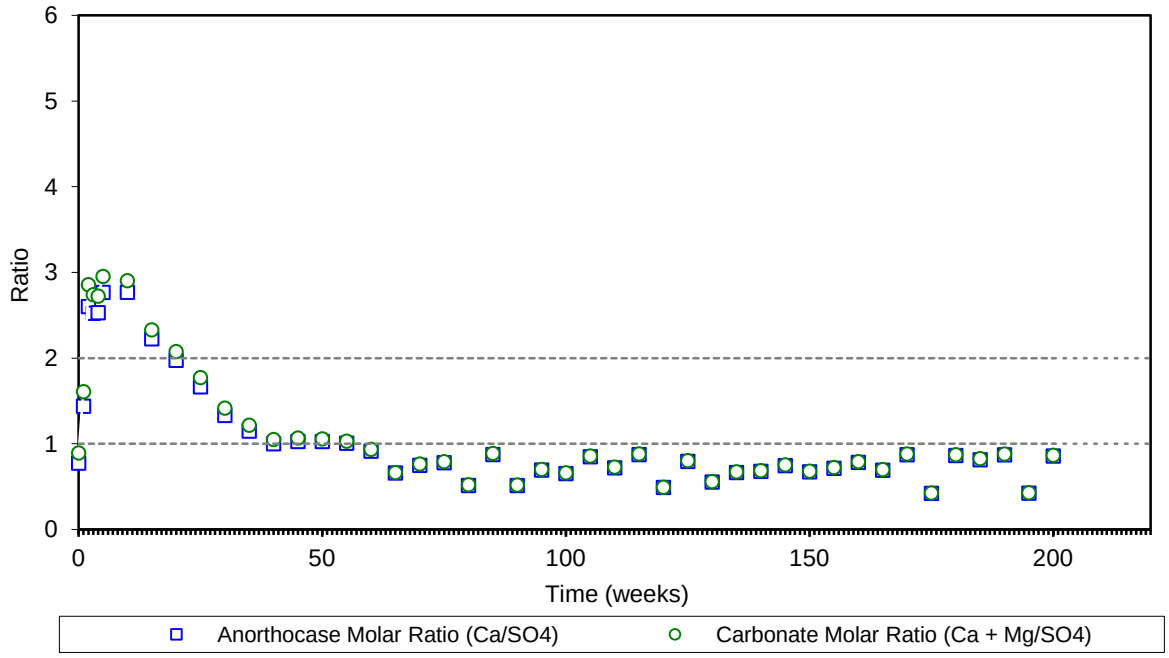
TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Selected Parameters in Weekly Humidity Cell Leachate Cyclone U/F - Untreated



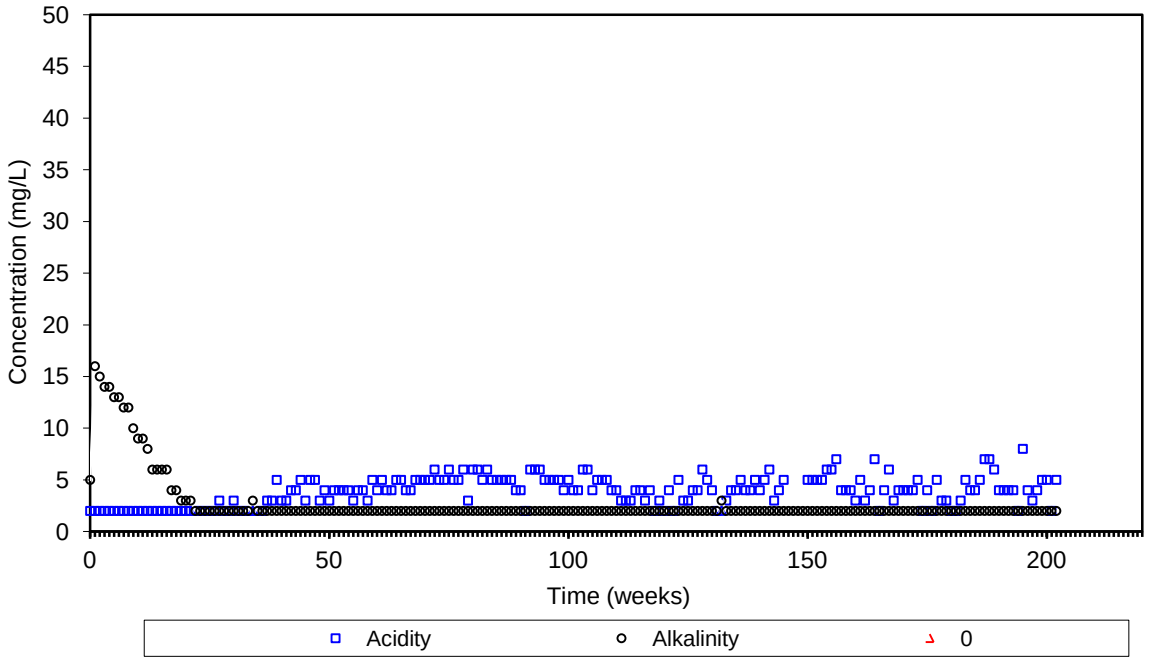
Carbonate (Ca + Mg/SO$_4$) and Anorthoclase (Ca/SO$_4$) Molar Ratios Cyclone U/F - Untreated



TEST REPORT

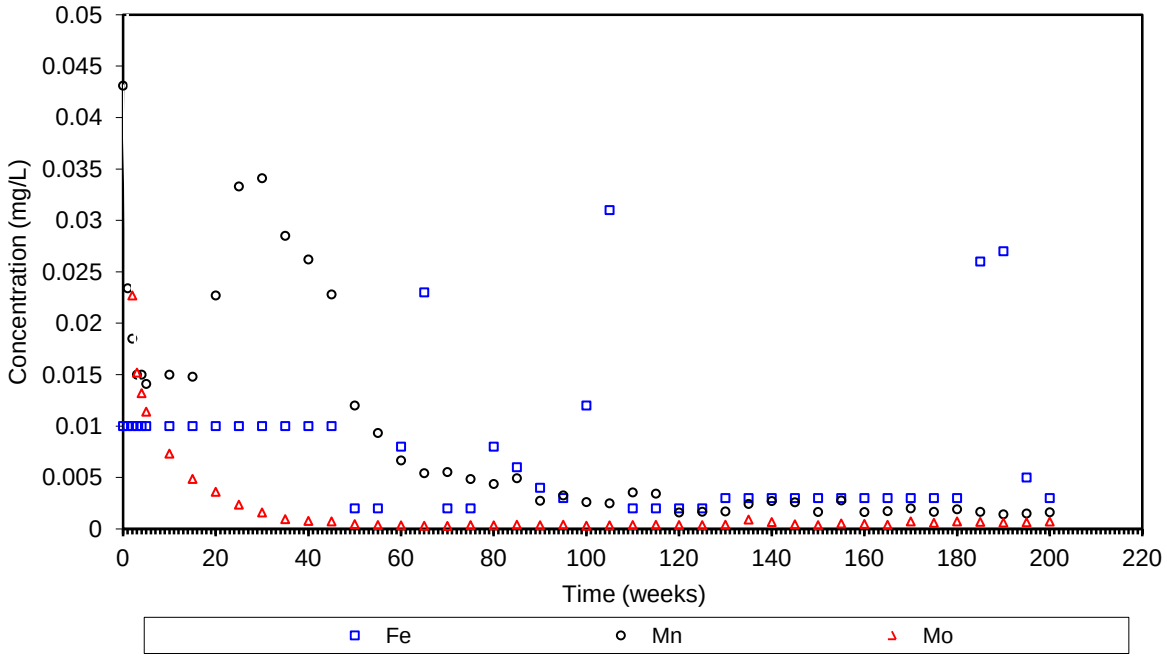
Humidity Cell Test (ASTM D 5744-96)

Selected Parameters in Weekly Humidity Cell Leachate Cyclone U/F - Untreated



Note: Acidity and alkalinity have detection limit of 2 mg/L.

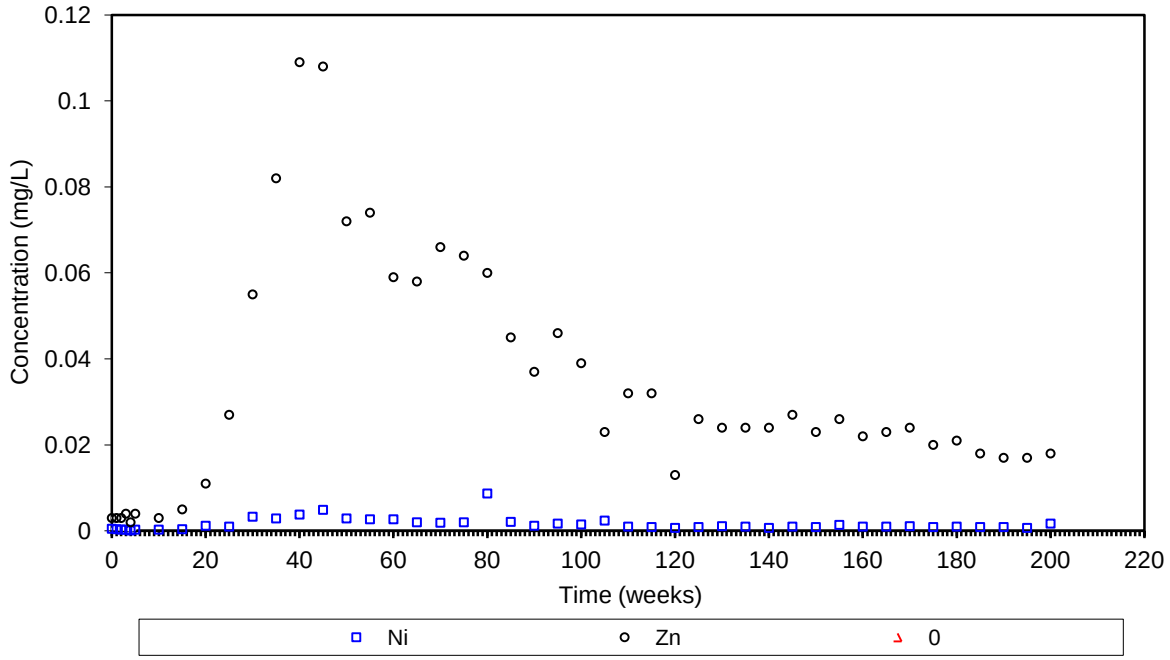
Selected Parameters in Weekly Humidity Cell Leachate Cyclone U/F - Untreated



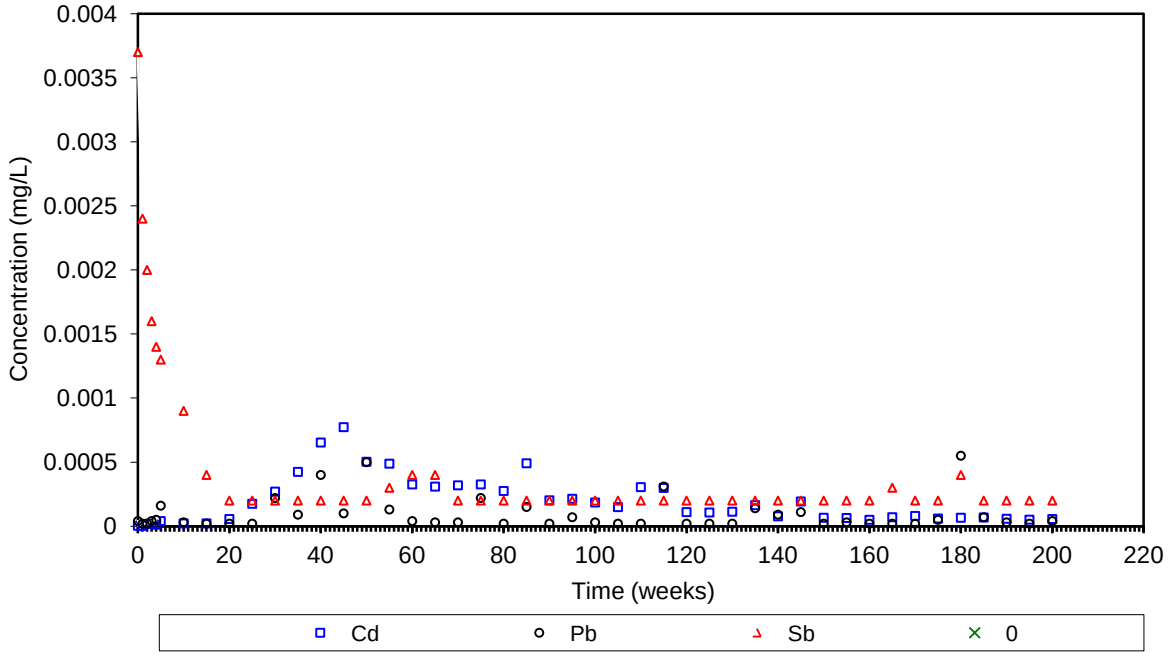
TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Selected Parameters in Weekly Humidity Cell Leachate Cyclone U/F - Untreated



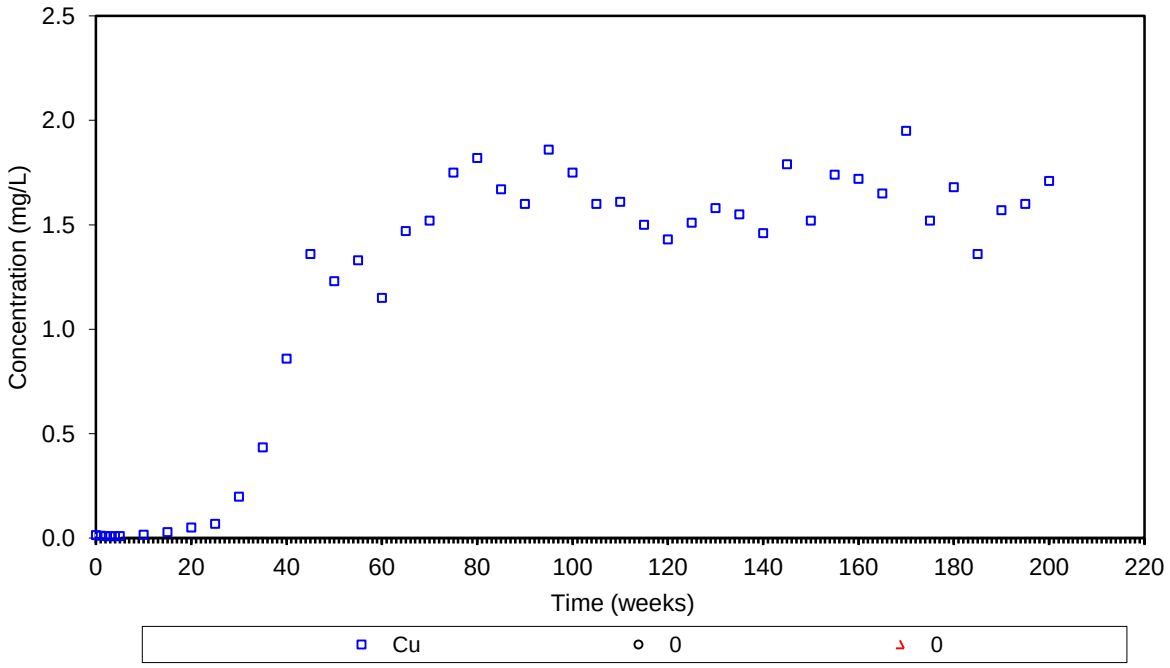
Selected Parameters in Weekly Humidity Cell Leachate Cyclone U/F - Untreated



TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Selected Parameters in Weekly Humidity Cell Leachate Cyclone U/F - Untreated



Test Specimen

Sample	Weight (g)
Cyclone U/F - Desulphidized	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	0	1	2	3	4	5	6	7	8	9
LIMS		11105-JUN09	11106-JUN09	11107-JUN09	11143-JUN09	10009-JUL09	10027-JUL09	10046-JUL09	11076-JUL09	10008-AUG09	10040-AUG09
Hum Cell Leachate Vol	mLs	592	961	983	994	984	977	991	994	982	998
pH	units	7.41	7.50	7.54	7.64	7.39	7.39	7.14	7.04	7.40	7.50
Alkalinity	mg/L as $CaCO_3$	7	21	18	16	16	16	14	13	13	12
Acidity	mg/L as $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Conductivity	µS/cm	101	75	58	51	46	27	42	39	36	34
SO_4	mg/L	22	12	5.0	5.0	5.3	4.9	3.9	3.8	3.1	2.6
Hg	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	---	---	---	---
Ag	mg/L	< 0.00001	0.00002	< 0.00001	< 0.00001	< 0.00001	< 0.00001	---	---	---	---
Al	mg/L	0.09	0.05	0.05	0.03	0.04	0.04	---	---	---	---
As	mg/L	0.0007	0.0009	0.0007	0.0007	0.0008	0.0003	---	---	---	---
Ba	mg/L	0.0105	0.0140	0.0181	0.0195	0.0218	0.0250	---	---	---	---
Be	mg/L	< 0.00002	0.00003	< 0.00002	< 0.00002	< 0.00002	< 0.00002	---	---	---	---
B	mg/L	0.0086	0.0098	0.0046	0.0026	0.0020	0.0019	---	---	---	---
Bi	mg/L	0.00002	0.00003	< 0.00001	< 0.00001	< 0.00001	< 0.00001	---	---	---	---
Ca	mg/L	9.65	9.75	8.23	7.21	7.21	7.48	---	---	---	---
Cd	mg/L	< 0.000003	0.000012	< 0.000003	< 0.000003	< 0.000003	0.000004	---	---	---	---
Co	mg/L	0.000152	0.000149	0.000072	0.000057	0.000043	0.000048	---	---	---	---
Cr	mg/L	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	---	---	---	---
Cu	mg/L	0.0055	0.0033	0.0023	0.0016	0.0015	0.0014	---	---	---	---
Fe	mg/L	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	---	---	---	---
K	mg/L	8.00	4.89	3.04	1.92	1.50	1.32	---	---	---	---
Li	mg/L	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	---	---	---	---
Mg	mg/L	0.988	0.887	0.638	0.490	0.442	0.410	---	---	---	---
Mn	mg/L	0.00618	0.00980	0.00820	0.00698	0.00712	0.00717	---	---	---	---
Mo	mg/L	0.0222	0.0205	0.00753	0.00395	0.00296	0.00267	---	---	---	---
Na	mg/L	2.81	0.78	0.18	0.06	0.03	0.03	---	---	---	---
Ni	mg/L	0.0003	0.0003	0.0002	0.0002	0.0002	0.0002	---	---	---	---
Pb	mg/L	0.00016	0.00006	< 0.00002	0.00005	< 0.00002	0.00008	---	---	---	---
Sb	mg/L	0.0033	0.0026	0.0020	0.0014	0.0012	0.0012	---	---	---	---
Se	mg/L	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	---	---	---	---
Si	mg/L	0.68	1.57	1.43	1.32	1.39	1.34	---	---	---	---
Sn	mg/L	0.0183	0.00547	0.00106	0.00060	0.00050	0.00044	---	---	---	---
Sr	mg/L	0.0565	0.0536	0.0444	0.0398	0.0394	0.0410	---	---	---	---
Ti	mg/L	0.0008	0.0002	0.0003	0.0004	0.0003	0.0002	---	---	---	---
Tl	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	---	---	---	---
U	mg/L	0.000076	0.000245	0.000129	0.000096	0.000084	0.000090	---	---	---	---
V	mg/L	0.00078	0.00091	0.00095	0.00081	0.00087	0.00082	---	---	---	---
W	mg/L	0.00167	0.00350	0.00231	0.00159	0.00127	0.00111	---	---	---	---
Y	mg/L	0.000006	0.000038	0.000002	0.000003	< 0.000001	0.000001	---	---	---	---
Zn	mg/L	0.002	0.001	0.001	0.002	< 0.001	0.001	---	---	---	---

Test Specimen

Sample	Weight (g
Cyclone U/F - Desulphidized	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	10	11	12	13	14	15	16	17	18	19	20	21
LIMS		10166-AUG09	10183-AUG09	10006-SEP09	10023-SEP09	10040-SEP09	10155-SEP09	11062-SEP09	10018-OCT09	11051-OCT09	11061-OCT09	11170-OCT09	10011-NOV09
Hum Cell Leachate Vol	mLs	988	997	970	888	872	877	885	893	891	883	865	869
pH	units	7.24	7.07	6.75	7.06	6.82	*7.37	7.30	7.15	7.24	7.22	6.96	7.14
Alkalinity	mg/L as $CaCO_3$	12	12	11	9	8	9	8	7	7	8	6	6
Acidity	mg/L as $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Conductivity	µS/cm	35	39	32	26	25	31	23	22	21	21	22	21
SO_4	mg/L	2.7	5.0	2.2	2.0	1.9	1.8	1.7	1.5	1.5	1.7	1.7	1.8
Hg	mg/L	< 0.0001	---	---	---	---	< 0.0001	---	---	---	---	< 0.0001	---
Ag	mg/L	< 0.00001	---	---	---	---	< 0.00001	---	---	---	---	< 0.00001	---
Al	mg/L	0.04	---	---	---	---	0.03	---	---	---	---	0.04	---
As	mg/L	0.0021	---	---	---	---	0.0006	---	---	---	---	0.0004	---
Ba	mg/L	0.04708	---	---	---	---	0.0719	---	---	---	---	0.108	---
Be	mg/L	< 0.00002	---	---	---	---	< 0.00002	---	---	---	---	< 0.00002	---
B	mg/L	0.0007	---	---	---	---	0.0004	---	---	---	---	0.0004	---
Bi	mg/L	< 0.00001	---	---	---	---	< 0.00001	---	---	---	---	< 0.00001	---
Ca	mg/L	5.59	---	---	---	---	4.19	---	---	---	---	3.68	---
Cd	mg/L	< 0.000003	---	---	---	---	< 0.000003	---	---	---	---	< 0.000003	---
Co	mg/L	0.000045	---	---	---	---	0.000097	---	---	---	---	0.000105	---
Cr	mg/L	< 0.0005	---	---	---	---	< 0.0005	---	---	---	---	< 0.0005	---
Cu	mg/L	0.0017	---	---	---	---	0.0036	---	---	---	---	0.0043	---
Fe	mg/L	< 0.01	---	---	---	---	< 0.01	---	---	---	---	< 0.01	---
K	mg/L	0.72	---	---	---	---	0.50	---	---	---	---	0.50	---
Li	mg/L	< 0.001	---	---	---	---	< 0.001	---	---	---	---	< 0.001	---
Mg	mg/L	0.212	---	---	---	---	0.140	---	---	---	---	0.128	---
Mn	mg/L	0.00618	---	---	---	---	0.00536	---	---	---	---	0.00715	---
Mo	mg/L	0.00166	---	---	---	---	0.00132	---	---	---	---	0.00126	---
Na	mg/L	0.01	---	---	---	---	< 0.01	---	---	---	---	< 0.01	---
Ni	mg/L	0.0001	---	---	---	---	< 0.0001	---	---	---	---	0.0005	---
Pb	mg/L	< 0.00002	---	---	---	---	0.00002	---	---	---	---	0.00003	---
Sb	mg/L	0.0009	---	---	---	---	0.0004	---	---	---	---	< 0.0002	---
Se	mg/L	< 0.001	---	---	---	---	< 0.001	---	---	---	---	< 0.001	---
Si	mg/L	1.22	---	---	---	---	0.91	---	---	---	---	1.04	---
Sn	mg/L	0.00042	---	---	---	---	0.00040	---	---	---	---	0.00051	---
Sr	mg/L	0.0322	---	---	---	---	0.0244	---	---	---	---	0.0221	---
Ti	mg/L	0.0001	---	---	---	---	0.0006	---	---	---	---	0.0003	---
Tl	mg/L	< 0.0002	---	---	---	---	< 0.0002	---	---	---	---	< 0.0002	---
U	mg/L	0.000048	---	---	---	---	0.000033	---	---	---	---	0.000001	---
V	mg/L	0.00084	---	---	---	---	0.00061	---	---	---	---	0.00043	---
W	mg/L	0.00073	---	---	---	---	0.00051	---	---	---	---	0.00047	---
Y	mg/L	0.000002	---	---	---	---	0.000004	---	---	---	---	< 0.000001	---
Zn	mg/L	0.002	---	---	---	---	0.002	---	---	---	---	0.002	---

**Reassay LIMS 11017-OCT09*

Test Specimen

Sample	Weight (g
Cyclone U/F - Desulphidized	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	22	23	24	25	26	27	28	29	30	31	32	33
LIMS		11047-NOV09	11128-NOV09	11149-NOV09	10007-DEC09	10032-DEC09	10057-DEC09	11205-DEC09	11238-DEC09	10008-JAN10	10032-JAN10	10058-JAN10	10085-JAN10
Hum Cell Leachate Vol	mLs	861	894	883	890	848	873	902	850	845	954	893	944
pH	units	7.00	7.05	6.96	6.98	6.91	6.87	6.83	6.92	7.00	6.76	6.69	6.83
Alkalinity	mg/L as $CaCO_3$	5	12	5	4	4	4	4	4	6	4	3	4
Acidity	mg/L as $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Conductivity	µS/cm	19	17	19	16	17	16	14	15	14	16	14	15
SO_4	mg/L	1.7	1.8	1.8	1.4	1.5	1.4	1.5	1.3	1.5	1.5	1.3	1.3
Hg	mg/L	---	---	---	< 0.0001	---	---	---	---	< 0.0001	---	---	---
Ag	mg/L	---	---	---	< 0.00001	---	---	---	---	< 0.00001	---	---	---
Al	mg/L	---	---	---	0.02	---	---	---	---	0.02	---	---	---
As	mg/L	---	---	---	< 0.0002	---	---	---	---	< 0.0002	---	---	---
Ba	mg/L	---	---	---	0.135	---	---	---	---	0.173	---	---	---
Be	mg/L	---	---	---	< 0.00002	---	---	---	---	< 0.00002	---	---	---
B	mg/L	---	---	---	0.0003	---	---	---	---	0.0012	---	---	---
Bi	mg/L	---	---	---	< 0.00001	---	---	---	---	< 0.00001	---	---	---
Ca	mg/L	---	---	---	2.57	---	---	---	---	2.09	---	---	---
Cd	mg/L	---	---	---	0.000020	---	---	---	---	0.000015	---	---	---
Co	mg/L	---	---	---	0.000249	---	---	---	---	0.000514	---	---	---
Cr	mg/L	---	---	---	< 0.0005	---	---	---	---	< 0.0005	---	---	---
Cu	mg/L	---	---	---	0.0137	---	---	---	---	0.0045	---	---	---
Fe	mg/L	---	---	---	< 0.01	---	---	---	---	< 0.01	---	---	---
K	mg/L	---	---	---	0.47	---	---	---	---	0.48	---	---	---
Li	mg/L	---	---	---	< 0.001	---	---	---	---	< 0.001	---	---	---
Mg	mg/L	---	---	---	0.111	---	---	---	---	0.097	---	---	---
Mn	mg/L	---	---	---	0.0127	---	---	---	---	0.0174	---	---	---
Mo	mg/L	---	---	---	0.00104	---	---	---	---	0.00121	---	---	---
Na	mg/L	---	---	---	0.01	---	---	---	---	< 0.01	---	---	---
Ni	mg/L	---	---	---	0.0004	---	---	---	---	0.0007	---	---	---
Pb	mg/L	---	---	---	0.00003	---	---	---	---	0.00004	---	---	---
Sb	mg/L	---	---	---	0.0003	---	---	---	---	0.0002	---	---	---
Se	mg/L	---	---	---	< 0.001	---	---	---	---	< 0.001	---	---	---
Si	mg/L	---	---	---	1.01	---	---	---	---	1.01	---	---	---
Sn	mg/L	---	---	---	0.00086	---	---	---	---	0.00092	---	---	---
Sr	mg/L	---	---	---	0.0159	---	---	---	---	0.0134	---	---	---
Ti	mg/L	---	---	---	0.0004	---	---	---	---	0.0006	---	---	---
Tl	mg/L	---	---	---	< 0.0002	---	---	---	---	< 0.0002	---	---	---
U	mg/L	---	---	---	0.000026	---	---	---	---	0.000024	---	---	---
V	mg/L	---	---	---	0.00027	---	---	---	---	0.00019	---	---	---
W	mg/L	---	---	---	0.00032	---	---	---	---	0.00020	---	---	---
Y	mg/L	---	---	---	0.000009	---	---	---	---	0.000011	---	---	---
Zn	mg/L	---	---	---	0.003	---	---	---	---	0.005	---	---	---

Test Specimen

Sample	Weight (g
Cyclone U/F - Desulphidized	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	34	35	36	37	38	39	40	41	42	43	44	45
LIMS		10008-FEB10	10033-FEB10	10062-FEB10	10088-FEB10	10008-MAR10	10034-MAR10	10060-MAR10	10085-MAR10	10129-MAR10	10008-APR10	10035-APR10	11077-APR10
Hum Cell Leachate Vol	mLs	945	880	947	946	996	842	821	873	964	911	821	852
pH	units	7.04	6.70	6.82	6.49	6.45	6.51	6.52	6.47	6.52	6.48	6.36	6.58
Alkalinity	mg/L as $CaCO_3$	4	3	3	2	3	<2	<2	2	<2	<2	<2	2
Acidity	mg/L as $CaCO_3$	<2	<2	<2	<2	<2	2	<2	<2	<2	<2	<2	<2
Conductivity	µS/cm	15	14	14	14	14	13	13	12	12	12	12	14
SO_4	mg/L	1.4	1.2	1.3	1.2	1.3	1.3	1.3	1.2	1.1	1.2	1.2	1.3
Hg	mg/L	---	< 0.0001	---	---	---	---	< 0.0001	---	---	---	---	< 0.0001
Ag	mg/L	---	< 0.00001	---	---	---	---	< 0.00001	---	---	---	---	< 0.00001
Al	mg/L	---	< 0.01	---	---	---	---	0.01	---	---	---	---	0.01
As	mg/L	---	< 0.0002	---	---	---	---	< 0.0002	---	---	---	---	0.0006
Ba	mg/L	---	0.218	---	---	---	---	0.257	---	---	---	---	0.285
Be	mg/L	---	< 0.00002	---	---	---	---	< 0.00002	---	---	---	---	0.00003
B	mg/L	---	< 0.0002	---	---	---	---	0.0003	---	---	---	---	0.0002
Bi	mg/L	---	< 0.00001	---	---	---	---	< 0.00001	---	---	---	---	< 0.00001
Ca	mg/L	---	1.55	---	---	---	---	1.63	---	---	---	---	1.65
Cd	mg/L	---	0.000017	---	---	---	---	0.000036	---	---	---	---	0.000046
Co	mg/L	---	0.000490	---	---	---	---	0.000756	---	---	---	---	0.00108
Cr	mg/L	---	< 0.0005	---	---	---	---	< 0.0005	---	---	---	---	< 0.0005
Cu	mg/L	---	0.0088	---	---	---	---	0.0115	---	---	---	---	0.0125
Fe	mg/L	---	< 0.01	---	---	---	---	< 0.01	---	---	---	---	< 0.01
K	mg/L	---	0.37	---	---	---	---	0.44	---	---	---	---	0.42
Li	mg/L	---	< 0.001	---	---	---	---	< 0.001	---	---	---	---	< 0.001
Mg	mg/L	---	0.073	---	---	---	---	0.072	---	---	---	---	0.068
Mn	mg/L	---	0.0215	---	---	---	---	0.0243	---	---	---	---	0.0244
Mo	mg/L	---	0.00085	---	---	---	---	0.00084	---	---	---	---	0.00074
Na	mg/L	---	< 0.01	---	---	---	---	< 0.01	---	---	---	---	< 0.01
Ni	mg/L	---	0.0004	---	---	---	---	0.0007	---	---	---	---	0.0012
Pb	mg/L	---	0.00004	---	---	---	---	0.00025	---	---	---	---	0.00005
Sb	mg/L	---	< 0.0002	---	---	---	---	0.0002	---	---	---	---	< 0.0002
Se	mg/L	---	< 0.001	---	---	---	---	< 0.001	---	---	---	---	< 0.001
Si	mg/L	---	0.77	---	---	---	---	0.92	---	---	---	---	0.83
Sn	mg/L	---	0.00134	---	---	---	---	0.00171	---	---	---	---	0.00131
Sr	mg/L	---	0.0098	---	---	---	---	0.0106	---	---	---	---	0.0103
Ti	mg/L	---	0.0002	---	---	---	---	0.0002	---	---	---	---	< 0.0001
Tl	mg/L	---	< 0.0002	---	---	---	---	< 0.0002	---	---	---	---	< 0.0002
U	mg/L	---	0.000002	---	---	---	---	0.000001	---	---	---	---	0.000002
V	mg/L	---	0.00009	---	---	---	---	0.00009	---	---	---	---	0.00004
W	mg/L	---	0.00007	---	---	---	---	0.00005	---	---	---	---	< 0.00003
Y	mg/L	---	< 0.000001	---	---	---	---	0.000005	---	---	---	---	0.000020
Zn	mg/L	---	0.007	---	---	---	---	0.008	---	---	---	---	0.010

Test Specimen

Sample	Weight (g
Cyclone U/F - Desulphidized	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	46	47	48	49	50	51	52	53	54	55	56	57
LIMS		11101-APR10	10008-MAY10	10034-MAY10	10059-MAY10	10084-MAY10	10008-JUN10	10033-JUN10	10071-JUN10	10083-JUN10	10187-JUN10	10007-JUL10	10033-JUL10
Hum Cell Leachate Vol	mLs	868	909	885	837	875	869	870	867	862	873	954	871
pH	units	6.51	6.75	6.53	6.49	6.35	6.23	6.25	6.30	6.30	6.36	6.49	6.30
Alkalinity	mg/L as $CaCO_3$	<2	3	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Acidity	mg/L as $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Conductivity	µS/cm	12	19	12	13	13	13	11	11	11	12	12	11
SO_4	mg/L	1.5	1.3	1.0	1.2	1.0	1.5	1.0	1.1	1.0	1.2	1.0	1.6
Hg	mg/L	---	---	---	---	< 0.0001	---	---	---	---	< 0.0001	---	---
Ag	mg/L	---	---	---	---	< 0.00001	---	---	---	---	< 0.00001	---	---
Al	mg/L	---	---	---	---	< 0.01	---	---	---	---	< 0.01	---	---
As	mg/L	---	---	---	---	< 0.0002	---	---	---	---	< 0.0002	---	---
Ba	mg/L	---	---	---	---	0.331	---	---	---	---	0.350	---	---
Be	mg/L	---	---	---	---	0.00003	---	---	---	---	0.00004	---	---
B	mg/L	---	---	---	---	< 0.0002	---	---	---	---	< 0.0002	---	---
Bi	mg/L	---	---	---	---	< 0.00001	---	---	---	---	< 0.00001	---	---
Ca	mg/L	---	---	---	---	1.54	---	---	---	---	1.39	---	---
Cd	mg/L	---	---	---	---	0.000063	---	---	---	---	0.000066	---	---
Co	mg/L	---	---	---	---	0.00127	---	---	---	---	0.00132	---	---
Cr	mg/L	---	---	---	---	< 0.0005	---	---	---	---	< 0.0005	---	---
Cu	mg/L	---	---	---	---	0.0253	---	---	---	---	0.0850	---	---
Fe	mg/L	---	---	---	---	< 0.002	---	---	---	---	< 0.002	---	---
K	mg/L	---	---	---	---	0.333	---	---	---	---	0.302	---	---
Li	mg/L	---	---	---	---	< 0.001	---	---	---	---	< 0.001	---	---
Mg	mg/L	---	---	---	---	0.055	---	---	---	---	0.043	---	---
Mn	mg/L	---	---	---	---	0.0234	---	---	---	---	0.0207	---	---
Mo	mg/L	---	---	---	---	0.00056	---	---	---	---	0.00049	---	---
Na	mg/L	---	---	---	---	0.02	---	---	---	---	< 0.01	---	---
Ni	mg/L	---	---	---	---	0.0014	---	---	---	---	0.0018	---	---
Pb	mg/L	---	---	---	---	< 0.00002	---	---	---	---	< 0.00002	---	---
Sb	mg/L	---	---	---	---	< 0.0002	---	---	---	---	0.0003	---	---
Se	mg/L	---	---	---	---	< 0.001	---	---	---	---	< 0.001	---	---
Si	mg/L	---	---	---	---	0.65	---	---	---	---	0.45	---	---
Sn	mg/L	---	---	---	---	0.00125	---	---	---	---	0.00109	---	---
Sr	mg/L	---	---	---	---	0.0085	---	---	---	---	0.0073	---	---
Ti	mg/L	---	---	---	---	< 0.0001	---	---	---	---	< 0.0001	---	---
Tl	mg/L	---	---	---	---	< 0.0002	---	---	---	---	< 0.0002	---	---
U	mg/L	---	---	---	---	0.000002	---	---	---	---	0.000004	---	---
V	mg/L	---	---	---	---	< 0.00003	---	---	---	---	< 0.00003	---	---
W	mg/L	---	---	---	---	< 0.00003	---	---	---	---	< 0.00003	---	---
Y	mg/L	---	---	---	---	0.000015	---	---	---	---	0.000053	---	---
Zn	mg/L	---	---	---	---	0.013	---	---	---	---	0.014	---	---

Test Specimen

Sample	Weight (g
Cyclone U/F - Desulphidized	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	58	59	60	61	62	63	64	65	66	67	68	69
LIMS		10059-JUL10	10085-JUL10	10007-AUG10	10033-AUG10	10059-AUG10	11295-AUG10	10275-AUG10	10019-SEP10	10045-SEP10	10069-SEP10	10093-SEP10	10088-OCT10
Hum Cell Leachate Vol	mLs	883	871	898	883	936	902	958	877	874	890	880	875
pH	units	5.93	*6.30	6.10	6.18	6.26	6.24	** 6.42	6.18	6.12	6.53	6.30	6.25
Alkalinity	mg/L as $CaCO_3$	<2	<2	<2	<2	<2	<2	**< 2	<2	<2	2	<2	<2
Acidity	mg/L as $CaCO_3$	<2	*< 2	2	<2	<2	<2	<2	3	<2	<2	<2	<2
Conductivity	µS/cm	12	*11	8	13	11	11	15	10	10	11	10	10
SO_4	mg/L	1.1	0.9	1.0	0.9	1.5	1.0	0.9	0.9	1.1	0.9	0.9	1.0
Hg	mg/L	---	---	< 0.0001	---	---	---	---	< 0.0001	---	---	---	---
Ag	mg/L	---	---	< 0.00001	---	---	---	---	< 0.00001	---	---	---	---
Al	mg/L	---	---	0.13	---	---	---	---	< 0.01	---	---	---	---
As	mg/L	---	---	< 0.0002	---	---	---	---	< 0.0002	---	---	---	---
Ba	mg/L	---	---	0.405	---	---	---	---	0.364	---	---	---	---
Be	mg/L	---	---	0.00003	---	---	---	---	0.00005	---	---	---	---
B	mg/L	---	---	< 0.0002	---	---	---	---	0.0003	---	---	---	---
Bi	mg/L	---	---	< 0.00001	---	---	---	---	< 0.00001	---	---	---	---
Ca	mg/L	---	---	1.33	---	---	---	---	0.92	---	---	---	---
Cd	mg/L	---	---	0.000088	---	---	---	---	0.000092	---	---	---	---
Co	mg/L	---	---	0.00150	---	---	---	---	0.00149	---	---	---	---
Cr	mg/L	---	---	< 0.0005	---	---	---	---	< 0.0005	---	---	---	---
Cu	mg/L	---	---	0.0402	---	---	---	---	0.0545	---	---	---	---
Fe	mg/L	---	---	< 0.002	---	---	---	---	< 0.002	---	---	---	---
K	mg/L	---	---	0.280	---	---	---	---	0.218	---	---	---	---
Li	mg/L	---	---	< 0.001	---	---	---	---	< 0.001	---	---	---	---
Mg	mg/L	---	---	0.038	---	---	---	---	0.013	---	---	---	---
Mn	mg/L	---	---	0.0181	---	---	---	---	0.0146	---	---	---	---
Mo	mg/L	---	---	0.00044	---	---	---	---	0.00045	---	---	---	---
Na	mg/L	---	---	0.01	---	---	---	---	< 0.01	---	---	---	---
Ni	mg/L	---	---	0.0023	---	---	---	---	0.0022	---	---	---	---
Pb	mg/L	---	---	< 0.00002	---	---	---	---	0.00002	---	---	---	---
Sb	mg/L	---	---	0.0004	---	---	---	---	0.0004	---	---	---	---
Se	mg/L	---	---	< 0.001	---	---	---	---	< 0.001	---	---	---	---
Si	mg/L	---	---	0.56	---	---	---	---	0.44	---	---	---	---
Sn	mg/L	---	---	0.00111	---	---	---	---	0.00106	---	---	---	---
Sr	mg/L	---	---	0.0066	---	---	---	---	0.0045	---	---	---	---
Ti	mg/L	---	---	< 0.0001	---	---	---	---	< 0.0001	---	---	---	---
Tl	mg/L	---	---	< 0.0002	---	---	---	---	< 0.0002	---	---	---	---
U	mg/L	---	---	< 0.000001	---	---	---	---	0.000001	---	---	---	---
V	mg/L	---	---	< 0.00003	---	---	---	---	0.00010	---	---	---	---
W	mg/L	---	---	< 0.00003	---	---	---	---	< 0.00003	---	---	---	---
Y	mg/L	---	---	0.000105	---	---	---	---	0.000012	---	---	---	---
Zn	mg/L	---	---	0.018	---	---	---	---	0.020	---	---	---	---

**Reassay LIMS 11259-AUG10* ***Reassay LIMS 11088-SEP10*

Test Specimen

Sample	Weight (g
Cyclone U/F - Desulphidized	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	70	71	72	73	74	75	76	77	78	79	80
LIMS		10112-OCT10	10260-OCT10	10281-OCT10	10006-NOV10	10029-NOV10	11183-NOV10	11204-NOV10	11225-NOV10	10014-DEC10	10044-DEC10	10069-DEC10
Hum Cell Leachate Vol	mLs	996	898	894	946	874	865	883	874	917	892	895
pH	units	6.04	6.14	6.04	6.09	6.06	5.99	6.24	6.24	6.26	6.06	6.18
Alkalinity	mg/L as $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Acidity	mg/L as $CaCO_3$	4	2	3	3	<2	<2	<2	<2	<2	<2	<2
Conductivity	µS/cm	8	8	8	6	11	10	14	10	9	9	8
SO_4	mg/L	0.8	0.9	0.8	0.9	1.0	0.9	1.3	1.1	0.9	0.8	0.8
Hg	mg/L	< 0.0001	---	---	---	---	< 0.0001	---	---	---	---	< 0.0001
Ag	mg/L	< 0.00001	---	---	---	---	< 0.00001	---	---	---	---	< 0.00001
Al	mg/L	< 0.01	---	---	---	---	0.01	---	---	---	---	0.03
As	mg/L	< 0.0002	---	---	---	---	< 0.0002	---	---	---	---	0.0002
Ba	mg/L	0.379	---	---	---	---	0.421	---	---	---	---	0.378
Be	mg/L	0.00005	---	---	---	---	0.00004	---	---	---	---	0.00003
B	mg/L	0.0010	---	---	---	---	0.0005	---	---	---	---	0.0003
Bi	mg/L	< 0.00001	---	---	---	---	< 0.00001	---	---	---	---	< 0.00001
Ca	mg/L	1.17	---	---	---	---	1.16	---	---	---	---	0.95
Cd	mg/L	0.000082	---	---	---	---	0.000107	---	---	---	---	0.000090
Co	mg/L	0.00136	---	---	---	---	0.00122	---	---	---	---	0.00113
Cr	mg/L	< 0.0005	---	---	---	---	< 0.0005	---	---	---	---	< 0.0005
Cu	mg/L	0.0593	---	---	---	---	0.0648	---	---	---	---	0.0865
Fe	mg/L	< 0.002	---	---	---	---	< 0.002	---	---	---	---	0.003
K	mg/L	0.191	---	---	---	---	0.225	---	---	---	---	0.199
Li	mg/L	< 0.001	---	---	---	---	< 0.001	---	---	---	---	< 0.001
Mg	mg/L	0.027	---	---	---	---	0.025	---	---	---	---	0.022
Mn	mg/L	0.0140	---	---	---	---	0.0114	---	---	---	---	0.00923
Mo	mg/L	0.00038	---	---	---	---	0.00044	---	---	---	---	0.00035
Na	mg/L	0.02	---	---	---	---	0.02	---	---	---	---	0.02
Ni	mg/L	0.0021	---	---	---	---	0.0024	---	---	---	---	0.0034
Pb	mg/L	< 0.00002	---	---	---	---	0.00041	---	---	---	---	< 0.00002
Sb	mg/L	< 0.0002	---	---	---	---	< 0.0002	---	---	---	---	< 0.0002
Se	mg/L	< 0.001	---	---	---	---	< 0.001	---	---	---	---	< 0.001
Si	mg/L	0.43	---	---	---	---	0.42	---	---	---	---	0.34
Sn	mg/L	0.00167	---	---	---	---	0.00098	---	---	---	---	0.00081
Sr	mg/L	0.0053	---	---	---	---	0.0046	---	---	---	---	0.0039
Ti	mg/L	< 0.0001	---	---	---	---	< 0.0001	---	---	---	---	< 0.0001
Tl	mg/L	< 0.0002	---	---	---	---	< 0.0002	---	---	---	---	< 0.0002
U	mg/L	0.000002	---	---	---	---	0.000001	---	---	---	---	0.000003
V	mg/L	< 0.00003	---	---	---	---	< 0.00003	---	---	---	---	< 0.00003
W	mg/L	< 0.00003	---	---	---	---	< 0.00003	---	---	---	---	< 0.00003
Y	mg/L	0.000015	---	---	---	---	0.000011	---	---	---	---	0.000045
Zn	mg/L	0.023	---	---	---	---	0.023	---	---	---	---	0.021

Test Specimen

Sample	Weight (g
Cyclone U/F - Desulphidized	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	81	82	83	84	85	86	87	88	89	90	91	92
LIMS		10094-DEC10	10008-JAN11	10036-JAN11	10065-JAN11	10094-JAN11	10006-FEB11	10036-FEB11	10065-FEB11	10097-FEB11	10006-MAR11	10036-MAR11	10070-MAR11
Hum Cell Leachate Vol	mLs	869	1001	893	981	975	973	876	875	870	966	981	888
pH	units	5.75	6.10	6.11	6.19	6.05	6.00	6.07	6.13	6.02	6.41	5.90	6.20
Alkalinity	mg/L as $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Acidity	mg/L as $CaCO_3$	3	3	<2	<2	2	2	<2	2	<2	<2	4	6
Conductivity	µS/cm	7	7	6	8	7	10	8	6	6	9	3	3
SO_4	mg/L	0.8	0.8	0.8	0.9	0.8	0.9	1.0	0.8	0.9	0.8	1.2	0.9
Hg	mg/L	---	---	---	---	< 0.0001	---	---	---	---	< 0.0001	---	---
Ag	mg/L	---	---	---	---	< 0.00001	---	---	---	---	< 0.00001	---	---
Al	mg/L	---	---	---	---	0.03	---	---	---	---	0.03	---	---
As	mg/L	---	---	---	---	< 0.0002	---	---	---	---	< 0.0002	---	---
Ba	mg/L	---	---	---	---	0.373	---	---	---	---	0.372	---	---
Be	mg/L	---	---	---	---	0.00004	---	---	---	---	0.00006	---	---
B	mg/L	---	---	---	---	< 0.0002	---	---	---	---	0.0002	---	---
Bi	mg/L	---	---	---	---	< 0.00001	---	---	---	---	< 0.00001	---	---
Ca	mg/L	---	---	---	---	1.01	---	---	---	---	0.94	---	---
Cd	mg/L	---	---	---	---	0.000166	---	---	---	---	0.000114	---	---
Co	mg/L	---	---	---	---	0.00110	---	---	---	---	0.00105	---	---
Cr	mg/L	---	---	---	---	< 0.0005	---	---	---	---	< 0.0005	---	---
Cu	mg/L	---	---	---	---	0.111	---	---	---	---	0.102	---	---
Fe	mg/L	---	---	---	---	< 0.002	---	---	---	---	0.002	---	---
K	mg/L	---	---	---	---	0.187	---	---	---	---	0.179	---	---
Li	mg/L	---	---	---	---	< 0.001	---	---	---	---	< 0.001	---	---
Mg	mg/L	---	---	---	---	0.019	---	---	---	---	0.018	---	---
Mn	mg/L	---	---	---	---	0.00893	---	---	---	---	0.00745	---	---
Mo	mg/L	---	---	---	---	0.00035	---	---	---	---	0.00040	---	---
Na	mg/L	---	---	---	---	0.02	---	---	---	---	0.03	---	---
Ni	mg/L	---	---	---	---	0.0026	---	---	---	---	0.0026	---	---
Pb	mg/L	---	---	---	---	0.00005	---	---	---	---	< 0.00002	---	---
Sb	mg/L	---	---	---	---	< 0.0002	---	---	---	---	< 0.0002	---	---
Se	mg/L	---	---	---	---	< 0.001	---	---	---	---	< 0.001	---	---
Si	mg/L	---	---	---	---	0.38	---	---	---	---	0.37	---	---
Sn	mg/L	---	---	---	---	0.00084	---	---	---	---	0.00127	---	---
Sr	mg/L	---	---	---	---	0.0036	---	---	---	---	0.0032	---	---
Ti	mg/L	---	---	---	---	< 0.0001	---	---	---	---	< 0.0001	---	---
Tl	mg/L	---	---	---	---	< 0.0002	---	---	---	---	< 0.00002	---	---
U	mg/L	---	---	---	---	0.000001	---	---	---	---	0.000002	---	---
V	mg/L	---	---	---	---	< 0.00003	---	---	---	---	< 0.00003	---	---
W	mg/L	---	---	---	---	< 0.00003	---	---	---	---	< 0.00003	---	---
Y	mg/L	---	---	---	---	0.000086	---	---	---	---	0.000021	---	---
Zn	mg/L	---	---	---	---	0.023	---	---	---	---	0.022	---	---

Test Specimen

Sample	Weight (g
Cyclone U/F - Desulphidized	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	93	94	95	96	97	98	99	100	101	102	103	104
LIMS		10102-MAR11	10222-MAR11	10010-APR11	10039-APR11	10128-APR11	11054-APR11	10049-MAY11	10067-MAY11	10101-MAY11	10140-MAY11	11410-MAY11	10024-JUN11
Hum Cell Leachate Vol	mLs	964	990	952	898	954	988	991	947	1004	916	985	994
pH	units	5.99	6.02	6.09	5.96	6.08	6.08	6.07	6.18	6.18	6.10	6.04	** 6.00
Alkalinity	mg/L as $CaCO_3$	3	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Acidity	mg/L as $CaCO_3$	3	3	<2	2	<2	<2	2	2	<2	2	3	3
Conductivity	µS/cm	3	8	8	3	2	2	3	8	8	7	7	7
SO_4	mg/L	0.8	0.8	0.9	0.7	1.0	0.6	0.7	0.8	0.9	0.8	0.7	0.8
Hg	mg/L	---	---	< 0.0001	---	---	---	---	< 0.0001	---	---	---	---
Ag	mg/L	---	---	< 0.00001	---	---	---	---	< 0.00001	---	---	---	---
Al	mg/L	---	---	0.04	---	---	---	---	0.03	---	---	---	---
As	mg/L	---	---	< 0.0002	---	---	---	---	< 0.0002	---	---	---	---
Ba	mg/L	---	---	0.413	---	---	---	---	0.365	---	---	---	---
Be	mg/L	---	---	0.00005	---	---	---	---	0.00005	---	---	---	---
B	mg/L	---	---	< 0.0002	---	---	---	---	< 0.0002	---	---	---	---
Bi	mg/L	---	---	< 0.00001	---	---	---	---	< 0.00001	---	---	---	---
Ca	mg/L	---	---	0.97	---	---	---	---	0.95	---	---	---	---
Cd	mg/L	---	---	0.000100	---	---	---	---	0.000101	---	---	---	---
Co	mg/L	---	---	0.00102	---	---	---	---	0.000977	---	---	---	---
Cr	mg/L	---	---	< 0.0005	---	---	---	---	< 0.0005	---	---	---	---
Cu	mg/L	---	---	0.114	---	---	---	---	0.131	---	---	---	---
Fe	mg/L	---	---	< 0.002	---	---	---	---	< 0.002	---	---	---	---
K	mg/L	---	---	0.178	---	---	---	---	0.181	---	---	---	---
Li	mg/L	---	---	< 0.001	---	---	---	---	< 0.001	---	---	---	---
Mg	mg/L	---	---	0.017	---	---	---	---	0.016	---	---	---	---
Mn	mg/L	---	---	0.00694	---	---	---	---	0.00584	---	---	---	---
Mo	mg/L	---	---	0.00041	---	---	---	---	0.00037	---	---	---	---
Na	mg/L	---	---	0.02	---	---	---	---	0.02	---	---	---	---
Ni	mg/L	---	---	0.0027	---	---	---	---	0.0025	---	---	---	---
Pb	mg/L	---	---	0.00003	---	---	---	---	< 0.00002	---	---	---	---
Sb	mg/L	---	---	< 0.0002	---	---	---	---	< 0.0002	---	---	---	---
Se	mg/L	---	---	< 0.001	---	---	---	---	< 0.001	---	---	---	---
Si	mg/L	---	---	0.38	---	---	---	---	0.35	---	---	---	---
Sn	mg/L	---	---	0.00118	---	---	---	---	0.00123	---	---	---	---
Sr	mg/L	---	---	0.0031	---	---	---	---	0.0027	---	---	---	---
Ti	mg/L	---	---	< 0.0001	---	---	---	---	< 0.0001	---	---	---	---
Tl	mg/L	---	---	< 0.00002	---	---	---	---	< 0.00002	---	---	---	---
U	mg/L	---	---	0.000003	---	---	---	---	0.000001	---	---	---	---
V	mg/L	---	---	< 0.00003	---	---	---	---	< 0.00003	---	---	---	---
W	mg/L	---	---	< 0.00003	---	---	---	---	< 0.00003	---	---	---	---
Y	mg/L	---	---	0.000015	---	---	---	---	0.000037	---	---	---	---
Zn	mg/L	---	---	0.023	---	---	---	---	0.023	---	---	---	---

**Reassay LIM*
***Reassay LIM*

Test Specimen

Sample	Weight (g
Cyclone U/F - Desulphidized	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	105	106	107	108	109	110	111	112	113	114	115	116
LIMS		10064-JUN11	10104-JUN11	10261-JUN11	10006-JUL11	10047-JUL11	10093-JUL11	10135-JUL11	10009-AUG11	10056-AUG11	11088-AUG11	11172-AUG11	10275-AUG11
Hum Cell Leachate Vol	mLs	991	987	975	988	988	989	988	983	1000	986	989	980
pH	units	6.08	6.03	5.97	6.09	5.80	6.02	6.09	5.97	6.09	6.02	6.24	6.02
Alkalinity	mg/L as $CaCO_3$	<2	<2	<2	<2	2	<2	<2	<2	<2	<2	2	<2
Acidity	mg/L as $CaCO_3$	<2	<2	2	<2	<2	<2	<2	<2	<2	3	<2	<2
Conductivity	µS/cm	7	6	6	6	5	6	7	6	7	5	7	6
SO_4	mg/L	0.7	0.7	0.7	0.8	0.6	0.8	0.6	1.1	0.8	0.6	0.6	0.6
Hg	mg/L	< 0.0001	---	---	---	---	< 0.0001	---	---	---	---	< 0.0001	---
Ag	mg/L	< 0.00001	---	---	---	---	< 0.00001	---	---	---	---	< 0.00001	---
Al	mg/L	0.05	---	---	---	---	0.02	---	---	---	---	0.03	---
As	mg/L	< 0.0002	---	---	---	---	< 0.0002	---	---	---	---	< 0.0002	---
Ba	mg/L	0.305	---	---	---	---	0.283	---	---	---	---	0.269	---
Be	mg/L	0.00005	---	---	---	---	0.00005	---	---	---	---	0.00002	---
B	mg/L	0.0008	---	---	---	---	< 0.0002	---	---	---	---	0.0005	---
Bi	mg/L	< 0.00001	---	---	---	---	< 0.00001	---	---	---	---	< 0.00001	---
Ca	mg/L	0.88	---	---	---	---	0.80	---	---	---	---	0.75	---
Cd	mg/L	*0.000080	---	---	---	---	0.000096	---	---	---	---	0.000129	---
Co	mg/L	0.000781	---	---	---	---	0.000714	---	---	---	---	0.000623	---
Cr	mg/L	< 0.0005	---	---	---	---	< 0.0005	---	---	---	---	< 0.0005	---
Cu	mg/L	0.123	---	---	---	---	0.119	---	---	---	---	0.131	---
Fe	mg/L	0.005	---	---	---	---	0.002	---	---	---	---	< 0.002	---
K	mg/L	0.142	---	---	---	---	0.141	---	---	---	---	0.129	---
Li	mg/L	< 0.001	---	---	---	---	< 0.001	---	---	---	---	< 0.001	---
Mg	mg/L	0.021	---	---	---	---	0.014	---	---	---	---	0.011	---
Mn	mg/L	*0.00488	---	---	---	---	0.00407	---	---	---	---	0.00398	---
Mo	mg/L	0.00033	---	---	---	---	0.00033	---	---	---	---	0.00036	---
Na	mg/L	0.02	---	---	---	---	0.02	---	---	---	---	0.02	---
Ni	mg/L	0.0024	---	---	---	---	0.0020	---	---	---	---	0.0019	---
Pb	mg/L	*0.00008	---	---	---	---	0.00005	---	---	---	---	0.00024	---
Sb	mg/L	< 0.0002	---	---	---	---	< 0.0002	---	---	---	---	0.0002	---
Se	mg/L	< 0.001	---	---	---	---	< 0.001	---	---	---	---	< 0.001	---
Si	mg/L	0.29	---	---	---	---	0.27	---	---	---	---	0.20	---
Sn	mg/L	0.00116	---	---	---	---	0.00102	---	---	---	---	0.00107	---
Sr	mg/L	0.0024	---	---	---	---	0.0021	---	---	---	---	0.0019	---
Ti	mg/L	< 0.0001	---	---	---	---	< 0.0001	---	---	---	---	< 0.0001	---
Tl	mg/L	0.00002	---	---	---	---	< 0.00002	---	---	---	---	< 0.00002	---
U	mg/L	*0.000004	---	---	---	---	< 0.000001	---	---	---	---	< 0.000001	---
V	mg/L	< 0.00003	---	---	---	---	0.00003	---	---	---	---	0.00003	---
W	mg/L	< 0.00003	---	---	---	---	< 0.00003	---	---	---	---	< 0.00003	---
Y	mg/L	0.000048	---	---	---	---	0.000004	---	---	---	---	0.000005	---
Zn	mg/L	0.034	---	---	---	---	0.019	---	---	---	---	0.018	---

S 11312-JUN11
S 11313-JUN11

**Reas*

Test Specimen

Sample	Weight (g
Cyclone U/F - Desulphidized	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	117	118	119	120	121	122	123	124	125	126	127	128
LIMS		10008-SEP11	10052-SEP11	10170-SEP11	10304-SEP11	10033-OCT11	10086-OCT11	10137-OCT11	11234-OCT11	10008-NOV11	10079-NOV11	10139-NOV11	10196-NOV11
Hum Cell Leachate Vol	mLs	975	981	988	992	993	935	1009	959	1020	981	938	990
pH	units	6.16	6.01	5.96	6.02	6.00	6.01	6.04	5.94	6.00	5.97	5.90	5.79
Alkalinity	mg/L as $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Acidity	mg/L as $CaCO_3$	2	<2	2	<2	<2	<2	<2	<2	<2	<2	<2	4
Conductivity	µS/cm	*2	6	7	2	2	15	8	2	3	<2	2	2
SO_4	mg/L	1.0	0.6	1.0	1.0	0.6	0.7	0.6	1.3	0.7	0.6	0.7	0.7
Hg	mg/L	---	---	---	< 0.0001	---	---	---	---	< 0.0001	---	---	---
Ag	mg/L	---	---	---	< 0.00001	---	---	---	---	< 0.00001	---	---	---
Al	mg/L	---	---	---	0.02	---	---	---	---	0.03	---	---	---
As	mg/L	---	---	---	< 0.0002	---	---	---	---	0.0002	---	---	---
Ba	mg/L	---	---	---	0.279	---	---	---	---	0.274	---	---	---
Be	mg/L	---	---	---	0.00004	---	---	---	---	0.00004	---	---	---
B	mg/L	---	---	---	< 0.0002	---	---	---	---	< 0.0002	---	---	---
Bi	mg/L	---	---	---	< 0.00001	---	---	---	---	< 0.00001	---	---	---
Ca	mg/L	---	---	---	0.66	---	---	---	---	0.72	---	---	---
Cd	mg/L	---	---	---	0.000076	---	---	---	---	0.000073	---	---	---
Co	mg/L	---	---	---	0.000529	---	---	---	---	0.000519	---	---	---
Cr	mg/L	---	---	---	< 0.0005	---	---	---	---	< 0.0005	---	---	---
Cu	mg/L	---	---	---	0.136	---	---	---	---	0.135	---	---	---
Fe	mg/L	---	---	---	< 0.002	---	---	---	---	< 0.002	---	---	---
K	mg/L	---	---	---	0.118	---	---	---	---	0.132	---	---	---
Li	mg/L	---	---	---	< 0.001	---	---	---	---	< 0.001	---	---	---
Mg	mg/L	---	---	---	0.007	---	---	---	---	0.011	---	---	---
Mn	mg/L	---	---	---	0.00346	---	---	---	---	0.00329	---	---	---
Mo	mg/L	---	---	---	0.00038	---	---	---	---	0.00035	---	---	---
Na	mg/L	---	---	---	0.03	---	---	---	---	0.02	---	---	---
Ni	mg/L	---	---	---	0.0017	---	---	---	---	0.0019	---	---	---
Pb	mg/L	---	---	---	0.00006	---	---	---	---	< 0.00002	---	---	---
Sb	mg/L	---	---	---	0.0003	---	---	---	---	< 0.0002	---	---	---
Se	mg/L	---	---	---	< 0.001	---	---	---	---	< 0.001	---	---	---
Si	mg/L	---	---	---	0.22	---	---	---	---	0.22	---	---	---
Sn	mg/L	---	---	---	0.00119	---	---	---	---	0.00112	---	---	---
Sr	mg/L	---	---	---	0.0015	---	---	---	---	0.0017	---	---	---
Ti	mg/L	---	---	---	< 0.0001	---	---	---	---	< 0.0001	---	---	---
Tl	mg/L	---	---	---	< 0.00002	---	---	---	---	< 0.00002	---	---	---
U	mg/L	---	---	---	0.000001	---	---	---	---	0.000001	---	---	---
V	mg/L	---	---	---	0.00004	---	---	---	---	0.00004	---	---	---
W	mg/L	---	---	---	< 0.00003	---	---	---	---	< 0.00003	---	---	---
Y	mg/L	---	---	---	0.000006	---	---	---	---	0.000002	---	---	---
Zn	mg/L	---	---	---	0.014	---	---	---	---	0.016	---	---	---

ay LIMS 10473-SEP11

Test Specimen

Sample	Weight (g
Cyclone U/F - Desulphidized	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	129	130	131	132	133	134	135	136	137	138	139	140
LIMS		11787-NOV11	10007-DEC11	10069-DEC11	11043-DEC11	10266-DEC11	10016-JAN12	10099-JAN12	11050-JAN12	10190-JAN12	10250-JAN12	10049-FEB12	10112-FEB12
Hum Cell Leachate Vol	mLs	1009	992	988	989	994	996	960	986	982	984	994	990
pH	units	5.93	5.96	6.00	*5.89	5.97	6.03	6.10	5.91	5.97	5.81	5.77	5.90
Alkalinity	mg/L as $CaCO_3$	<2	<2	<2	3	<2	<2	<2	<2	<2	<2	<2	<2
Acidity	mg/L as $CaCO_3$	3	<2	<2	<2	<2	<2	<2	<2	<2	2	3	<2
Conductivity	µS/cm	7	2	2	*6	8	2	6	2	6	2	5	2
SO_4	mg/L	0.6	0.6	0.6	0.7	0.6	0.6	0.7	0.6	0.7	0.8	0.7	0.6
Hg	mg/L	---	< 0.0001	---	---	---	---	< 0.0001	---	---	---	---	< 0.0001
Ag	mg/L	---	< 0.00001	---	---	---	---	< 0.00001	---	---	---	---	< 0.00001
Al	mg/L	---	0.04	---	---	---	---	0.03	---	---	---	---	0.03
As	mg/L	---	0.0003	---	---	---	---	0.0003	---	---	---	---	0.0002
Ba	mg/L	---	0.247	---	---	---	---	0.246	---	---	---	---	0.225
Be	mg/L	---	0.00005	---	---	---	---	0.00004	---	---	---	---	0.00004
B	mg/L	---	< 0.0002	---	---	---	---	< 0.0002	---	---	---	---	< 0.0002
Bi	mg/L	---	< 0.00001	---	---	---	---	< 0.00001	---	---	---	---	< 0.00001
Ca	mg/L	---	0.71	---	---	---	---	0.67	---	---	---	---	0.67
Cd	mg/L	---	0.000068	---	---	---	---	0.000094	---	---	---	---	0.000058
Co	mg/L	---	0.000538	---	---	---	---	0.000467	---	---	---	---	0.000437
Cr	mg/L	---	< 0.0005	---	---	---	---	< 0.0005	---	---	---	---	< 0.0005
Cu	mg/L	---	0.150	---	---	---	---	0.143	---	---	---	---	0.148
Fe	mg/L	---	< 0.003	---	---	---	---	< 0.003	---	---	---	---	< 0.003
K	mg/L	---	0.120	---	---	---	---	0.122	---	---	---	---	0.115
Li	mg/L	---	< 0.001	---	---	---	---	< 0.001	---	---	---	---	< 0.001
Mg	mg/L	---	0.008	---	---	---	---	0.011	---	---	---	---	0.010
Mn	mg/L	---	0.00296	---	---	---	---	0.00314	---	---	---	---	0.00266
Mo	mg/L	---	0.00044	---	---	---	---	0.00074	---	---	---	---	0.00053
Na	mg/L	---	< 0.01	---	---	---	---	0.02	---	---	---	---	0.01
Ni	mg/L	---	0.0021	---	---	---	---	0.0018	---	---	---	---	0.0014
Pb	mg/L	---	< 0.00002	---	---	---	---	0.00005	---	---	---	---	0.00002
Sb	mg/L	---	< 0.0002	---	---	---	---	< 0.0002	---	---	---	---	0.0003
Se	mg/L	---	< 0.001	---	---	---	---	< 0.001	---	---	---	---	< 0.001
Si	mg/L	---	0.19	---	---	---	---	0.22	---	---	---	---	0.19
Sn	mg/L	---	0.00112	---	---	---	---	0.00101	---	---	---	---	0.00104
Sr	mg/L	---	0.0012	---	---	---	---	0.0014	---	---	---	---	0.0013
Ti	mg/L	---	< 0.0001	---	---	---	---	< 0.0001	---	---	---	---	< 0.0001
Tl	mg/L	---	< 0.00002	---	---	---	---	< 0.00002	---	---	---	---	< 0.00002
U	mg/L	---	0.000002	---	---	---	---	< 0.000001	---	---	---	---	0.000004
V	mg/L	---	< 0.00003	---	---	---	---	0.00005	---	---	---	---	0.00003
W	mg/L	---	< 0.00003	---	---	---	---	0.00004	---	---	---	---	0.00010
Y	mg/L	---	0.000006	---	---	---	---	< 0.000001	---	---	---	---	0.000004
Zn	mg/L	---	0.016	---	---	---	---	0.014	---	---	---	---	0.014

**Reassay LIMS 14272-JAN12*

Test Specimen

Sample	Weight (g
Cyclone U/F - Desulphidized	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	141	142	143	144	145	146	147	148	149	150	151	152
LIMS		10170-FEB12	10215-FEB12	10012-MAR12	10082-MAR12	10124-MAR12	10190-MAR12	10017-APR12	10056-APR12	10142-APR12	10167-APR12	10006-MAY12	10083-MAY12
Hum Cell Leachate Vol	mLs	992	972	990	977	1002	991	982	992	989	989	994	1004
pH	units	5.78	5.87	6.12	5.63	6.11	6.07	5.85	5.92	6.10	5.82	5.52	6.13
Alkalinity	mg/L as $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Acidity	mg/L as $CaCO_3$	2	2	<2	<2	2	<2	<2	<2	3	2	3	3
Conductivity	µS/cm	6	6	6	2	2	2	2	6	6	2	6	6
SO_4	mg/L	0.8	0.6	1.4	0.6	0.7	1.2	0.8	0.8	0.6	0.6	0.6	0.6
Hg	mg/L	---	---	---	---	< 0.0001	---	---	---	---	< 0.0001	---	---
Ag	mg/L	---	---	---	---	< 0.00001	---	---	---	---	< 0.00001	---	---
Al	mg/L	---	---	---	---	0.02	---	---	---	---	0.02	---	---
As	mg/L	---	---	---	---	0.0003	---	---	---	---	0.0003	---	---
Ba	mg/L	---	---	---	---	0.233	---	---	---	---	0.194	---	---
Be	mg/L	---	---	---	---	0.00002	---	---	---	---	0.00004	---	---
B	mg/L	---	---	---	---	0.0002	---	---	---	---	< 0.0002	---	---
Bi	mg/L	---	---	---	---	< 0.00001	---	---	---	---	< 0.00001	---	---
Ca	mg/L	---	---	---	---	0.70	---	---	---	---	0.59	---	---
Cd	mg/L	---	---	---	---	0.000112	---	---	---	---	0.000036	---	---
Co	mg/L	---	---	---	---	0.000457	---	---	---	---	0.000386	---	---
Cr	mg/L	---	---	---	---	< 0.0005	---	---	---	---	< 0.0005	---	---
Cu	mg/L	---	---	---	---	0.161	---	---	---	---	0.148	---	---
Fe	mg/L	---	---	---	---	< 0.003	---	---	---	---	< 0.003	---	---
K	mg/L	---	---	---	---	0.130	---	---	---	---	0.095	---	---
Li	mg/L	---	---	---	---	< 0.001	---	---	---	---	< 0.001	---	---
Mg	mg/L	---	---	---	---	0.036	---	---	---	---	0.009	---	---
Mn	mg/L	---	---	---	---	0.00305	---	---	---	---	0.00233	---	---
Mo	mg/L	---	---	---	---	0.00046	---	---	---	---	0.00037	---	---
Na	mg/L	---	---	---	---	0.02	---	---	---	---	0.02	---	---
Ni	mg/L	---	---	---	---	0.0018	---	---	---	---	0.0016	---	---
Pb	mg/L	---	---	---	---	0.00005	---	---	---	---	< 0.00002	---	---
Sb	mg/L	---	---	---	---	< 0.0002	---	---	---	---	< 0.0002	---	---
Se	mg/L	---	---	---	---	< 0.001	---	---	---	---	< 0.001	---	---
Si	mg/L	---	---	---	---	0.21	---	---	---	---	0.17	---	---
Sn	mg/L	---	---	---	---	0.00093	---	---	---	---	0.00084	---	---
Sr	mg/L	---	---	---	---	0.0014	---	---	---	---	0.0011	---	---
Ti	mg/L	---	---	---	---	< 0.0001	---	---	---	---	< 0.0001	---	---
Tl	mg/L	---	---	---	---	< 0.00002	---	---	---	---	< 0.00002	---	---
U	mg/L	---	---	---	---	0.000004	---	---	---	---	< 0.000001	---	---
V	mg/L	---	---	---	---	0.00005	---	---	---	---	0.00006	---	---
W	mg/L	---	---	---	---	< 0.00003	---	---	---	---	< 0.00003	---	---
Y	mg/L	---	---	---	---	0.000008	---	---	---	---	0.000006	---	---
Zn	mg/L	---	---	---	---	0.015	---	---	---	---	0.012	---	---

Test Specimen

Sample	Weight (g
Cyclone U/F - Desulphidized	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	153	154	155	156	157	158	159	160	161	162	163	164
LIMS		10138-MAY12	11125-MAY12	10348-MAY12	10019-JUN12	10050-JUN12	10092-JUN12	10134-JUN12	10006-JUL12	10212-JUL12	10213-JUL12	10214-JUL12	10215-JUL12
Hum Cell Leachate Vol	mLs	998	1000	1006	1004	995	1001	963	1009	1002	1004	996	1003
pH	units	5.91	5.70	5.63	5.52	5.72	5.70	5.70	5.87	5.69	5.88	5.46	5.84
Alkalinity	mg/L as $CaCO_3$	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Acidity	mg/L as $CaCO_3$	3	2	2	5	<2	3	2	<2	3	<2	<2	<2
Conductivity	µS/cm	12	7	5	5	5	13	5	6	8	6	6	6
SO_4	mg/L	0.7	0.6	0.7	0.6	1.0	0.9	0.6	0.6	0.8	0.6	0.6	0.6
Hg	mg/L	---	---	< 0.0001	---	---	---	---	< 0.0001	---	---	---	---
Ag	mg/L	---	---	< 0.00001	---	---	---	---	< 0.00001	---	---	---	---
Al	mg/L	---	---	0.03	---	---	---	---	0.03	---	---	---	---
As	mg/L	---	---	0.0002	---	---	---	---	< 0.0002	---	---	---	---
Ba	mg/L	---	---	0.179	---	---	---	---	0.180	---	---	---	---
Be	mg/L	---	---	0.00004	---	---	---	---	0.00004	---	---	---	---
B	mg/L	---	---	< 0.0002	---	---	---	---	< 0.0002	---	---	---	---
Bi	mg/L	---	---	< 0.00001	---	---	---	---	< 0.00001	---	---	---	---
Ca	mg/L	---	---	0.67	---	---	---	---	0.58	---	---	---	---
Cd	mg/L	---	---	0.000019	---	---	---	---	0.000015	---	---	---	---
Co	mg/L	---	---	0.000400	---	---	---	---	0.000349	---	---	---	---
Cr	mg/L	---	---	< 0.0005	---	---	---	---	< 0.0005	---	---	---	---
Cu	mg/L	---	---	0.146	---	---	---	---	0.147	---	---	---	---
Fe	mg/L	---	---	< 0.003	---	---	---	---	< 0.003	---	---	---	---
K	mg/L	---	---	0.104	---	---	---	---	0.103	---	---	---	---
Li	mg/L	---	---	< 0.001	---	---	---	---	< 0.001	---	---	---	---
Mg	mg/L	---	---	0.019	---	---	---	---	0.010	---	---	---	---
Mn	mg/L	---	---	0.00276	---	---	---	---	0.00220	---	---	---	---
Mo	mg/L	---	---	0.00044	---	---	---	---	0.00039	---	---	---	---
Na	mg/L	---	---	0.01	---	---	---	---	0.02	---	---	---	---
Ni	mg/L	---	---	0.0018	---	---	---	---	0.0016	---	---	---	---
Pb	mg/L	---	---	0.00004	---	---	---	---	0.00003	---	---	---	---
Sb	mg/L	---	---	0.0002	---	---	---	---	< 0.0002	---	---	---	---
Se	mg/L	---	---	< 0.001	---	---	---	---	< 0.001	---	---	---	---
Si	mg/L	---	---	0.19	---	---	---	---	0.16	---	---	---	---
Sn	mg/L	---	---	0.00078	---	---	---	---	0.00090	---	---	---	---
Sr	mg/L	---	---	0.0010	---	---	---	---	0.0009	---	---	---	---
Ti	mg/L	---	---	< 0.0001	---	---	---	---	< 0.0001	---	---	---	---
Tl	mg/L	---	---	< 0.00002	---	---	---	---	< 0.00002	---	---	---	---
U	mg/L	---	---	< 0.000001	---	---	---	---	< 0.000001	---	---	---	---
V	mg/L	---	---	0.00004	---	---	---	---	0.00005	---	---	---	---
W	mg/L	---	---	< 0.00003	---	---	---	---	< 0.00003	---	---	---	---
Y	mg/L	---	---	0.000006	---	---	---	---	0.000006	---	---	---	---
Zn	mg/L	---	---	0.013	---	---	---	---	0.013	---	---	---	---

Test Specimen

Sample	Weight (g
Cyclone U/F - Desulphidized	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	165	166	167	168	169	170
LIMS		10024-AUG12	10067-AUG12	10187-AUG12	10396-AUG12	10006-SEP12	10050-SEP12
Hum Cell Leachate Vol	mLs	991	1003	985	1000	999	983
pH	units	5.86	5.66	5.69	5.75	5.55	5.90
Alkalinity	mg/L as $CaCO_3$	<2	<2	<2	<2	<2	<2
Acidity	mg/L as $CaCO_3$	<2	2	3	2	4	<2
Conductivity	µS/cm	5	7	11	5	11	5
SO_4	mg/L	0.7	0.7	0.6	1.0	0.7	0.6
Hg	mg/L	< 0.0001	---	---	---	---	< 0.0001
Ag	mg/L	< 0.00001	---	---	---	---	< 0.00001
Al	mg/L	0.02	---	---	---	---	0.03
As	mg/L	0.0002	---	---	---	---	0.0003
Ba	mg/L	0.166	---	---	---	---	0.155
Be	mg/L	0.00003	---	---	---	---	0.00003
B	mg/L	0.0011	---	---	---	---	< 0.0002
Bi	mg/L	< 0.00001	---	---	---	---	< 0.00001
Ca	mg/L	0.55	---	---	---	---	0.55
Cd	mg/L	0.000039	---	---	---	---	0.000039
Co	mg/L	0.000361	---	---	---	---	0.000344
Cr	mg/L	< 0.0005	---	---	---	---	< 0.0005
Cu	mg/L	0.156	---	---	---	---	0.163
Fe	mg/L	< 0.003	---	---	---	---	< 0.003
K	mg/L	0.101	---	---	---	---	0.111
Li	mg/L	< 0.001	---	---	---	---	< 0.001
Mg	mg/L	0.008	---	---	---	---	0.008
Mn	mg/L	0.00207	---	---	---	---	0.00201
Mo	mg/L	0.00038	---	---	---	---	0.00041
Na	mg/L	0.01	---	---	---	---	0.01
Ni	mg/L	0.0015	---	---	---	---	0.0015
Pb	mg/L	0.00005	---	---	---	---	< 0.00002
Sb	mg/L	0.0004	---	---	---	---	< 0.0002
Se	mg/L	< 0.001	---	---	---	---	< 0.001
Si	mg/L	0.19	---	---	---	---	0.17
Sn	mg/L	0.00096	---	---	---	---	0.00070
Sr	mg/L	0.0008	---	---	---	---	0.0009
Ti	mg/L	< 0.0001	---	---	---	---	< 0.0001
Tl	mg/L	< 0.00002	---	---	---	---	< 0.00002
U	mg/L	0.000019	---	---	---	---	0.000003
V	mg/L	0.00006	---	---	---	---	0.00004
W	mg/L	< 0.00003	---	---	---	---	< 0.00003
Y	mg/L	0.000007	---	---	---	---	0.000006
Zn	mg/L	0.013	---	---	---	---	0.012

TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Test Specimen

Sample	Weight (g)
Cyclone U/F - Desulphidized	1000

Summary of ABA Test Data

Parameter	Units	Reference No.: 11249-MAY09
Sulphur (S)	%	0.046
Sulphide ($S^{=}$)	%	0.05
NP	t $CaCO_3$/1000 t	3.8
CO_3 NP	t $CaCO_3$/1000 t	0.37

Leachate Paremeters Measured | ***Acid Generation*** [1] | ***Acid Neutralization*** [1]

Weekly Leach No.	Volume Collected mL	pH units	Acidity $CaCO_3$ eq. mg/L	Alkalinity $CaCO_3$ eq. mg/L	Conductivity µmhos/cm	SO_4 mg/L	SO_4 Production Rate g/t/wk	Cumulative SO_4 Production g/t	Weekly S= Depletion %	Cumulative S= Depletion %	NP Consumption $CaCO_3$, g/t/wk	Cumulative NP Depletion %	Cumulative CO_3 NP Depletion %
0	592	7.41	<2	7	101	22	13.0	13.0	0.87	0.87	13.57	0.36	3.67
1	961	7.50	<2	21	75	12	11.5	24.6	0.77	1.64	12.01	0.67	6.91
2	983	7.54	<2	18	58	5.0	4.9	29.5	0.33	1.96	5.12	0.81	8.30
3	994	7.64	<2	16	51	5.0	5.0	34.4	0.33	2.30	5.18	0.94	9.70
4	984	7.39	<2	16	46	5.3	5.2	39.7	0.35	2.64	5.43	1.09	11.16
5	977	7.39	<2	16	27	4.9	4.8	44.4	0.32	2.96	4.99	1.22	12.51
6	991	7.14	<2	14	42	3.9	3.9	48.3	0.26	3.22	4.03	1.32	13.60
7	994	7.04	<2	13	39	3.8	3.8	52.1	0.25	3.47	3.93	1.43	14.66
8	982	7.40	<2	13	36	3.1	3.0	55.1	0.20	3.68	3.17	1.51	15.52
9	998	7.50	<2	12	34	2.6	2.6	57.7	0.17	3.85	2.70	1.58	16.25
10	988	7.24	<2	12	35	2.7	2.7	60.4	0.18	4.03	2.78	1.66	17.00
11	997	7.07	<2	12	39	5.0	5.0	65.4	0.33	4.36	5.19	1.79	18.41
12	970	6.75	<2	11	32	2.2	2.1	67.5	0.14	4.50	2.22	1.85	19.01
13	888	7.06	<2	9	26	2.0	1.8	69.3	0.12	4.62	1.85	1.90	19.51
14	872	6.82	<2	8	25	1.9	1.7	70.9	0.11	4.73	1.73	1.94	19.97
15	877	7.37	<2	9	31	1.8	1.6	72.5	0.11	4.83	1.64	1.99	20.42
16	885	7.30	<2	8	23	1.7	1.5	74.0	0.10	4.94	1.57	2.03	20.84
17	893	7.15	<2	7	22	1.5	1.3	75.4	0.09	5.02	1.40	2.07	21.22
18	891	7.24	<2	7	21	1.5	1.3	76.7	0.09	5.11	1.39	2.10	21.59
19	883	7.22	<2	8	21	1.7	1.5	78.2	0.10	5.21	1.56	2.14	22.02
20	865	6.96	<2	6	22	1.7	1.5	79.7	0.10	5.31	1.53	2.18	22.43

** Initial Week 0 leachate may included soluble sulphate, and may not indicate oxidation of sulphide in the sample material has occurred.*

[1] *Calculated values*

Summary - Weeks 0 to 20

Maximum Value	7.64	2	21	101	22	13.0	-	0.87	-	14	-	-
Minimum Value	6.75	<2	6	21	1.5	1.3	-	0.09	-	1.4	-	-
Average Value	7.18	2	12	38	4.3	3.8	-	0.25	-	3.95	-	-

TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Test Specimen

Sample	Weight (g)
Cyclone U/F - Desulphidized	1000

Changes to Head Sample after 20 Weeks [1]

Parameter	Units	Reference No.: 11249-MAY09
Sulphide ($S^{=}$) Remaining	%	0.05
NP Remaining	t $CaCO_3$/1000 t	3.7
CO_3 NP Remaining	t $CaCO_3$/1000 t	0.29

Leachate Paremeters Measured | ***Acid Generation*** [1] | ***Acid Neutralization*** [1]

Weekly Leach No.	Volume Collected mL	pH units	Acidity $CaCO_3$ eq. mg/L	Alkalinity $CaCO_3$ eq. mg/L	Conductivity µmhos/cm	SO_4 mg/L	SO_4 Production Rate g/t/wk	Cumulative SO_4 Production g/t	Weekly S= Depletion %	Cumulative S= Depletion %	NP Consumption $CaCO_3$, g/t/wk	Cumulative NP Depletion %	Cumulative CO_3 NP Depletion %
21	869	7.14	<2	6	21	1.8	1.6	81.2	0.10	5.42	1.63	2.23	22.87
22	861	7.00	<2	5	19	1.7	1.5	82.7	0.10	5.51	1.52	2.27	23.28
23	894	7.05	<2	12	17	1.8	1.6	84.3	0.11	5.62	1.68	2.31	23.74
24	883	6.96	<2	5	19	1.8	1.6	85.9	0.11	5.73	1.66	2.35	24.18
25	890	6.98	<2	4	16	1.4	1.2	87.1	0.08	5.81	1.30	2.39	24.53
26	848	6.91	<2	4	17	1.5	1.3	88.4	0.08	5.89	1.33	2.42	24.89
27	873	6.87	<2	4	16	1.4	1.2	89.6	0.08	5.98	1.27	2.46	25.24
28	902	6.83	<2	4	14	1.5	1.4	91.0	0.09	6.07	1.41	2.49	25.62
29	850	6.92	<2	4	15	1.3	1.1	92.1	0.07	6.14	1.15	2.52	25.93
30	845	7.00	<2	6	14	1.5	1.3	93.4	0.08	6.22	1.32	2.56	26.29
31	954	6.76	<2	4	16	1.5	1.4	94.8	0.10	6.32	1.49	2.60	26.69
32	893	6.69	<2	3	14	1.3	1.2	96.0	0.08	6.40	1.21	2.63	27.02
33	944	6.83	<2	4	15	1.3	1.2	97.2	0.08	6.48	1.28	2.66	27.36
34	945	7.04	<2	4	15	1.4	1.3	98.5	0.09	6.57	1.38	2.70	27.73
35	880	6.70	<2	3	14	1.2	1.1	99.6	0.07	6.64	1.10	2.73	28.03
36	947	6.82	<2	3	14	1.3	1.2	100.8	0.08	6.72	1.28	2.76	28.38
37	946	6.49	<2	2	14	1.2	1.1	101.9	0.08	6.80	1.18	2.79	28.70
38	996	6.45	<2	3	14	1.3	1.3	103.2	0.09	6.88	1.35	2.83	29.06
39	842	6.51	2	<2	13	1.3	1.1	104.3	0.07	6.95	1.14	2.86	29.37
40	821	6.52	<2	<2	13	1.3	1.1	105.4	0.07	7.03	1.11	2.89	29.67

[1] *Calculated values*

Summary - Weeks 0 to 40

Maximum Value	7.64	2	21	101	22	13.0	-	0.11	-	14	-	-
Minimum Value	6.45	<2	<2	13	1.2	1.1	-	0.07	-	1.1	-	-
Average Value	6.94	2	8	27	2.9	2.6	-	0.17	-	2.68	-	-

TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Test Specimen

Sample	Weight (g)
Cyclone U/F - Desulphidized	1000

Changes to Head Sample after 40 Weeks [1]

Parameter	Units	Reference No.: 11249-MAY09
Sulphide ($S^{=}$) Remaining	%	0.05
NP Remaining	t $CaCO_3$/1000 t	3.7
CO_3 NP Remaining	t $CaCO_3$/1000 t	0.26

Leachate Paremeters Measured | ***Acid Generation*** [1] | ***Acid Neutralization*** [1]

Weekly Leach No.	Volume Collected mL	pH units	Acidity $CaCO_3$ eq. mg/L	Alkalinity $CaCO_3$ eq. mg/L	Conductivity µmhos/cm	SO_4 mg/L	SO_4 Production Rate g/t/wk	Cumulative SO_4 Production g/t	Weekly S= Depletion %	Cumulative S= Depletion %	NP Consumption $CaCO_3$, g/t/wk	Cumulative NP Depletion %	Cumulative CO_3 NP Depletion %
41	873	6.47	<2	2	12	1.2	1.0	106.4	0.07	7.10	1.09	2.92	29.96
42	964	6.52	<2	<2	12	1.1	1.1	107.5	0.07	7.17	1.10	2.95	30.26
43	911	6.48	<2	<2	12	1.2	1.1	108.6	0.07	7.24	1.14	2.98	30.57
44	821	6.36	<2	<2	12	1.2	1.0	109.6	0.07	7.30	1.03	3.00	30.85
45	852	6.58	<2	2	14	1.3	1.1	110.7	0.07	7.38	1.15	3.03	31.16
46	868	6.51	<2	<2	12	1.5	1.3	112.0	0.09	7.47	1.36	3.07	31.53
47	909	6.75	<2	3	19	1.3	1.2	113.2	0.08	7.54	1.23	3.10	31.86
48	885	6.53	<2	<2	12	1.0	0.9	114.1	0.06	7.60	0.92	3.13	32.11
49	837	6.49	<2	<2	13	1.2	1.0	115.1	0.07	7.67	1.05	3.15	32.39
50	875	6.35	<2	<2	13	1.0	0.9	115.9	0.06	7.73	0.91	3.18	32.64
51	869	6.23	<2	<2	13	1.5	1.3	117.2	0.09	7.82	1.36	3.21	33.00
52	870	6.25	<2	<2	11	1.0	0.9	118.1	0.06	7.87	0.91	3.24	33.25
53	867	6.30	<2	<2	11	1.1	1.0	119.1	0.06	7.94	0.99	3.26	33.52
54	862	6.30	<2	<2	11	1.0	0.9	119.9	0.06	7.99	0.90	3.29	33.76
55	873	6.36	<2	<2	12	1.2	1.0	121.0	0.07	8.06	1.09	3.32	34.06
56	954	6.49	<2	<2	12	1.0	1.0	121.9	0.06	8.13	0.99	3.34	34.32
57	871	6.30	<2	<2	11	1.6	1.4	123.3	0.09	8.22	1.45	3.38	34.72
58	883	5.93	<2	<2	12	1.1	1.0	124.3	0.06	8.29	1.01	3.41	34.99
59	871	6.30	<2	<2	11	0.9	0.8	125.1	0.05	8.34	0.82	3.43	35.21
60	898	6.10	2	<2	8	1.0	0.9	126.0	0.06	8.40	0.94	3.45	35.46

[1] *Calculated values*

Summary - Weeks 0 to 60

Maximum Value	7.64	2	21	101	22	13.0	-	0.11	-	13.57	-	-
Minimum Value	5.93	<2	<2	8	0.9	0.8	-	0.05	-	0.82	-	-
Average Value	6.64	2	6	22	2.4	2.1	-	0.14	-	2.15	-	-

TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Test Specimen

Sample	Weight (g)
Cyclone U/F - Desulphidized	1000

Changes to Head Sample after 60 Weeks [1]

Parameter	Units	Reference No.: 11249-MAY09
Sulphide ($S^{=}$) Remaining	%	0.05
NP Remaining	t $CaCO_3$/1000 t	3.7
CO_3 NP Remaining	t $CaCO_3$/1000 t	0.24

Leachate Paremeters Measured

Weekly Leach No.	Volume Collected mL	pH units	Acidity $CaCO_3$ eq. mg/L	Alkalinity $CaCO_3$ eq. mg/L	Conductivity µmhos/cm	SO_4 mg/L
61	883	6.18	<2	<2	13	0.9
62	936	6.26	<2	<2	11	1.5
63	902	6.24	<2	<2	11	1.0
64	958	6.42	<2	<2	15	0.9
65	877	6.18	3	<2	10	0.9
66	874	6.12	<2	<2	10	1.1
67	890	6.53	<2	2	11	0.9
68	880	6.30	<2	<2	10	0.9
69	875	6.25	<2	<2	10	1.0
70	996	6.04	4	<2	8	0.8
71	898	6.14	2	<2	8	0.9
72	894	6.04	3	<2	8	0.8
73	946	6.09	3	<2	6	0.9
74	874	6.06	<2	<2	11	1.0
75	865	5.99	<2	<2	10	0.9
76	883	6.24	<2	<2	14	1.3
77	874	6.24	<2	<2	10	1.1
78	917	6.26	<2	<2	9	0.9
79	892	6.06	<2	<2	9	0.8
80	895	6.18	<2	<2	8	0.8

Acid Generation [1]

Weekly Leach No.	SO_4 Production Rate g/t/wk	Cumulative SO_4 Production g/t	Weekly S= Depletion %	Cumulative S= Depletion %
61	0.8	126.8	0.05	8.45
62	1.4	128.2	0.09	8.54
63	0.9	129.1	0.06	8.60
64	0.9	129.9	0.06	8.66
65	0.8	130.7	0.05	8.71
66	1.0	131.7	0.06	8.78
67	0.8	132.5	0.05	8.83
68	0.8	133.3	0.05	8.88
69	0.9	134.1	0.06	8.94
70	0.8	134.9	0.05	9.00
71	0.8	135.8	0.05	9.05
72	0.7	136.5	0.05	9.10
73	0.9	137.3	0.06	9.15
74	0.9	138.2	0.06	9.21
75	0.8	139.0	0.05	9.26
76	1.1	140.1	0.08	9.34
77	1.0	141.1	0.06	9.41
78	0.8	141.9	0.06	9.46
79	0.7	142.6	0.05	9.51
80	0.7	143.3	0.05	9.56

Acid Neutralization [1]

Weekly Leach No.	NP Consumption $CaCO_3$, g/t/wk	Cumulative NP Depletion %	Cumulative CO_3 NP Depletion %
61	0.83	3.47	35.69
62	1.46	3.51	36.08
63	0.94	3.54	36.34
64	0.90	3.56	36.58
65	0.82	3.58	36.80
66	1.00	3.61	37.07
67	0.83	3.63	37.30
68	0.83	3.65	37.52
69	0.91	3.68	37.77
70	0.83	3.70	37.99
71	0.84	3.72	38.22
72	0.75	3.74	38.42
73	0.89	3.76	38.66
74	0.91	3.79	38.91
75	0.81	3.81	39.13
76	1.20	3.84	39.45
77	1.00	3.87	39.72
78	0.86	3.89	39.95
79	0.74	3.91	40.15
80	0.75	3.93	40.35

[1] *Calculated values*

Summary - Weeks 0 to 80

	pH units	Acidity $CaCO_3$ eq. mg/L	Alkalinity $CaCO_3$ eq. mg/L	Conductivity µmhos/cm	SO_4 mg/L	SO_4 Production Rate g/t/wk	Cumulative SO_4 Production g/t	Weekly S= Depletion %	Cumulative S= Depletion %	NP Consumption $CaCO_3$, g/t/wk	Cumulative NP Depletion %	Cumulative CO_3 NP Depletion %
Maximum Value	7.64	4	21	101	22	13.0	-	0.11	-	14	-	-
Minimum Value	5.93	<2	<2	6	0.8	0.7	-	0.05	-	0.7	-	-
Average Value	6.47	2	5	19	2.0	1.8	-	0.12	-	1.84	-	-

TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Test Specimen

Sample	Weight (g)
Cyclone U/F - Desulphidized	1000

Changes to Head Sample after 80 Weeks [1]

Parameter	Units	Reference No.: 11249-MAY09
Sulphide ($S^{=}$) Remaining	%	0.05
NP Remaining	t $CaCO_3$/1000 t	3.7
CO_3 NP Remaining	t $CaCO_3$/1000 t	0.22

Leachate Paremeters Measured

Weekly Leach No.	Volume Collected mL	pH units	Acidity $CaCO_3$ eq. mg/L	Alkalinity $CaCO_3$ eq. mg/L	Conductivity µmhos/cm	SO_4 mg/L
81	869	5.75	3	<2	7	0.8
82	1001	6.10	3	<2	7	0.8
83	893	6.11	<2	<2	6	0.8
84	981	6.19	<2	<2	8	0.9
85	975	6.05	2	<2	7	0.8
86	973	6.00	2	<2	10	0.9
87	876	6.07	<2	<2	8	1.0
88	875	6.13	2	<2	6	0.8
89	870	6.02	<2	<2	6	0.9
90	966	6.41	<2	<2	9	0.8
91	981	5.90	4	<2	3	1.2
92	888	6.20	6	<2	3	0.9
93	964	5.99	3	3	3	0.8
94	990	6.02	3	<2	8	0.8
95	952	6.09	<2	<2	8	0.9
96	898	5.96	2	<2	3	0.7
97	954	6.08	<2	<2	2	1.0
98	988	6.08	<2	<2	2	0.6
99	991	6.07	2	<2	3	0.7
100	947	6.18	2	<2	8	0.8

Acid Generation [1]

SO_4 Production Rate g/t/wk	Cumulative SO_4 Production g/t	Weekly S= Depletion %	Cumulative S= Depletion %
0.7	144.0	0.05	9.60
0.8	144.8	0.05	9.66
0.7	145.5	0.05	9.70
0.9	146.4	0.06	9.76
0.8	147.2	0.05	9.81
0.9	148.1	0.06	9.87
0.9	149.0	0.06	9.93
0.7	149.7	0.05	9.98
0.8	150.4	0.05	10.03
0.8	151.2	0.05	10.08
1.2	152.4	0.08	10.16
0.8	153.2	0.05	10.21
0.8	154.0	0.05	10.26
0.8	154.8	0.05	10.32
0.9	155.6	0.06	10.37
0.6	156.2	0.04	10.42
1.0	157.2	0.06	10.48
0.6	157.8	0.04	10.52
0.7	158.5	0.05	10.57
0.8	159.2	0.05	10.62

Acid Neutralization [1]

NP Consumption $CaCO_3$, g/t/wk	Cumulative NP Depletion %	Cumulative CO_3 NP Depletion %
0.72	3.95	40.55
0.83	3.97	40.78
0.74	3.99	40.98
0.92	4.01	41.22
0.81	4.04	41.44
0.91	4.06	41.69
0.91	4.08	41.94
0.73	4.10	42.13
0.82	4.12	42.36
0.81	4.15	42.57
1.23	4.18	42.90
0.83	4.20	43.13
0.80	4.22	43.35
0.83	4.24	43.57
0.89	4.27	43.81
0.65	4.28	43.99
0.99	4.31	44.26
0.62	4.33	44.42
0.72	4.34	44.62
0.79	4.37	44.83

[1] *Calculated values*

Summary - Weeks 0 to 100

Maximum Value	7.64	6	21	101	22	13.0	-	0.11	-	14	-	-
Minimum Value	5.75	<2	<2	2	0.6	0.6	-	0.04	-	0.6	-	-
Average Value	6.35	2	4	17	1.8	1.6	-	0.11	-	1.64	-	-

TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Test Specimen

Sample	Weight (g)
Cyclone U/F - Desulphidized	1000

Changes to Head Sample after 100 Weeks [1]

Parameter	Units	Reference No.: 11249-MAY09
Sulphide ($S^{=}$) Remaining	%	0.04
NP Remaining	t $CaCO_3$/1000 t	3.6
CO_3 NP Remaining	t $CaCO_3$/1000 t	0.20

Leachate Paremeters Measured

Acid Generation [1]

Acid Neutralization [1]

Weekly Leach No.	Volume Collected mL	pH units	Acidity $CaCO_3$ eq. mg/L	Alkalinity $CaCO_3$ eq. mg/L	Conductivity µmhos/cm	SO_4 mg/L	SO_4 Production Rate g/t/wk	Cumulative SO_4 Production g/t	Weekly S= Depletion %	Cumulative S= Depletion %	NP Consumption $CaCO_3$, g/t/wk	Cumulative NP Depletion %	Cumulative CO_3 NP Depletion %
101	1004	6.18	<2	<2	8	0.9	0.9	160.1	0.06	10.68	0.94	4.39	45.09
102	916	6.10	2	<2	7	0.8	0.7	160.9	0.05	10.73	0.76	4.41	45.29
103	985	6.04	3	<2	7	0.7	0.7	161.6	0.05	10.77	0.72	4.43	45.49
104	994	6.00	3	<2	7	0.8	0.8	162.4	0.05	10.82	0.83	4.45	45.71
105	991	6.08	<2	<2	7	0.7	0.7	163.1	0.05	10.87	0.72	4.47	45.91
106	987	6.03	<2	<2	6	0.7	0.7	163.7	0.05	10.92	0.72	4.49	46.10
107	975	5.97	2	<2	6	0.7	0.7	164.4	0.05	10.96	0.71	4.51	46.29
108	988	6.09	<2	<2	6	0.8	0.8	165.2	0.05	11.01	0.82	4.53	46.51
109	988	5.80	<2	2	5	0.6	0.6	165.8	0.04	11.05	0.62	4.55	46.68
110	989	6.02	<2	<2	6	0.8	0.8	166.6	0.05	11.11	0.82	4.57	46.90
111	988	6.09	<2	<2	7	0.6	0.6	167.2	0.04	11.15	0.62	4.58	47.07
112	983	5.97	<2	<2	6	1.1	1.1	168.3	0.07	11.22	1.13	4.61	47.38
113	1000	6.09	<2	<2	7	0.8	0.8	169.1	0.05	11.27	0.83	4.63	47.60
114	986	6.02	3	2	5	0.6	0.6	169.7	0.04	11.31	0.62	4.65	47.77
115	989	6.24	<2	2	7	0.6	0.6	170.3	0.04	11.35	0.62	4.67	47.93
116	980	6.02	<2	<2	6	0.6	0.6	170.9	0.04	11.39	0.61	4.68	48.10
117	975	6.16	2	<2	2	1.0	1.0	171.8	0.07	11.46	1.02	4.71	48.37
118	981	6.01	<2	<2	6	0.6	0.6	172.4	0.04	11.49	0.61	4.73	48.54
119	988	5.96	2	<2	7	1.0	1.0	173.4	0.07	11.56	1.03	4.75	48.82
120	992	6.02	<2	<2	2	1.0	1.0	174.4	0.07	11.63	1.03	4.78	49.10

[1] *Calculated values*

Summary - Weeks 0 to 120

Maximum Value	7.64	6	21	101	22	13.0	-	0.11	-	14	-	-
Minimum Value	5.75	<2	<2	2	0.6	0.6	-	0.04	-	0.6	-	-
Average Value	6.28	2	4	15	1.6	1.4	-	0.10	-	1.50	-	-

TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Test Specimen

Sample	Weight (g)
Cyclone U/F - Desulphidized	1000

Changes to Head Sample after 120 Weeks [1]

Parameter	Units	Reference No.: 11249-MAY09
Sulphide ($S^{=}$) Remaining	%	0.04
NP Remaining	t $CaCO_3$/1000 t	3.6
CO_3 NP Remaining	t $CaCO_3$/1000 t	0.19

Leachate Paremeters Measured

Weekly Leach No.	Volume Collected mL	pH units	Acidity $CaCO_3$ eq. mg/L	Alkalinity $CaCO_3$ eq. mg/L	Conductivity µmhos/cm	SO_4 mg/L
121	993	6.00	<2	<2	2	0.6
122	935	6.01	<2	<2	15	0.7
123	1009	6.04	<2	<2	8	0.6
124	959	5.94	<2	<2	2	1.3
125	1020	6.00	<2	<2	3	0.7
126	981	5.97	<2	<2	<2	0.6
127	938	5.90	<2	<2	2	0.7
128	990	5.79	4	<2	2	0.7
129	1009	5.93	3	<2	7	0.6
130	992	5.96	<2	<2	2	0.6
131	988	6.00	<2	<2	2	0.6
132	989	5.89	<2	3	6	0.7
133	994	5.97	<2	<2	8	0.6
134	996	6.03	<2	<2	2	0.6
135	960	6.10	<2	<2	6	0.7
136	986	5.91	<2	<2	2	0.6
137	982	5.97	<2	<2	6	0.7
138	984	5.81	2	<2	2	0.8
139	994	5.77	3	<2	5	0.7
140	990	5.90	<2	<2	2	0.6

Acid Generation [1]

SO_4 Production Rate g/t/wk	Cumulative SO_4 Production g/t	Weekly S= Depletion %	Cumulative S= Depletion %
0.6	175.0	0.04	11.67
0.7	175.6	0.04	11.71
0.6	176.3	0.04	11.75
1.2	177.5	0.08	11.83
0.7	178.2	0.05	11.88
0.6	178.8	0.04	11.92
0.7	179.5	0.04	11.96
0.7	180.1	0.05	12.01
0.6	180.8	0.04	12.05
0.6	181.4	0.04	12.09
0.6	181.9	0.04	12.13
0.7	182.6	0.05	12.18
0.6	183.2	0.04	12.22
0.6	183.8	0.04	12.26
0.7	184.5	0.04	12.30
0.6	185.1	0.04	12.34
0.7	185.8	0.05	12.39
0.8	186.6	0.05	12.44
0.7	187.3	0.05	12.48
0.6	187.9	0.04	12.52

Acid Neutralization [1]

NP Consumption $CaCO_3$, g/t/wk	Cumulative NP Depletion %	Cumulative CO_3 NP Depletion %
0.62	4.80	49.27
0.68	4.81	49.45
0.63	4.83	49.62
1.30	4.87	49.97
0.74	4.89	50.17
0.61	4.90	50.34
0.68	4.92	50.52
0.72	4.94	50.72
0.63	4.95	50.89
0.62	4.97	51.06
0.62	4.99	51.22
0.72	5.01	51.42
0.62	5.02	51.59
0.62	5.04	51.75
0.70	5.06	51.94
0.62	5.07	52.11
0.72	5.09	52.30
0.82	5.11	52.52
0.72	5.13	52.72
0.62	5.15	52.89

[1] *Calculated values*

Summary - Weeks 0 to 140

Maximum Value	7.64	6	21	101	22	13.0	-	0.11	-	14	-	-
Minimum Value	5.75	<2	<2	2	0.6	0.6	-	0.04	-	0.6	-	-
Average Value	6.21	2	4	13	1.5	1.3	-	0.09	-	1.39	-	-

TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Test Specimen

Sample	Weight (g)
Cyclone U/F - Desulphidized	1000

Changes to Head Sample after 160 Weeks [1]

Parameter	Units	Reference No.: 11249-MAY09
Sulphide ($S^{=}$) Remaining	%	0.04
NP Remaining	t $CaCO_3$/1000 t	3.6
CO_3 NP Remaining	t $CaCO_3$/1000 t	0.17

Leachate Paremeters Measured

Acid Generation [1]

Acid Neutralization [1]

Weekly Leach No.	Volume Collected mL	pH units	Acidity $CaCO_3$ eq. mg/L	Alkalinity $CaCO_3$ eq. mg/L	Conductivity µmhos/cm	SO_4 mg/L	SO_4 Production Rate g/t/wk	Cumulative SO_4 Production g/t	Weekly S= Depletion %	Cumulative S= Depletion %	NP Consumption $CaCO_3$, g/t/wk	Cumulative NP Depletion %	Cumulative CO_3 NP Depletion %
141	992	5.78	2	<2	6	0.8	0.8	188.7	0.05	12.58	0.83	5.17	53.11
142	972	5.87	2	<2	6	0.6	0.6	189.2	0.04	12.62	0.61	5.19	53.28
143	990	6.12	<2	<2	6	1.4	1.4	190.6	0.09	12.71	1.44	5.23	53.67
144	977	5.63	<2	<2	2	0.6	0.6	191.2	0.04	12.75	0.61	5.24	53.83
145	1002	6.11	2	<2	2	0.7	0.7	191.9	0.05	12.79	0.73	5.26	54.03
146	991	6.07	<2	<2	2	1.2	1.2	193.1	0.08	12.87	1.24	5.29	54.36
147	982	5.85	<2	<2	2	0.8	0.8	193.9	0.05	12.93	0.82	5.31	54.58
148	992	5.92	<2	<2	6	0.8	0.8	194.7	0.05	12.98	0.83	5.34	54.81
149	989	6.10	3	<2	6	0.6	0.6	195.3	0.04	13.02	0.62	5.35	54.97
150	989	5.82	2	<2	2	0.6	0.6	195.9	0.04	13.06	0.62	5.37	55.14
151	994	5.52	3	<2	6	0.6	0.6	196.5	0.04	13.10	0.62	5.39	55.31
152	1004	6.13	3	<2	6	0.6	0.6	197.1	0.04	13.14	0.63	5.40	55.48
153	998	5.91	3	<2	12	0.7	0.7	197.8	0.05	13.18	0.73	5.42	55.68
154	1000	5.70	2	<2	7	0.6	0.6	198.4	0.04	13.22	0.63	5.44	55.84
155	1006	5.63	2	<2	5	0.7	0.7	199.1	0.05	13.27	0.73	5.46	56.04
156	1004	5.52	5	<2	5	0.6	0.6	199.7	0.04	13.31	0.63	5.47	56.21
157	995	5.72	<2	<2	5	1.0	1.0	200.7	0.07	13.38	1.04	5.50	56.49
158	1001	5.70	3	<2	13	0.9	0.9	201.6	0.06	13.44	0.94	5.53	56.75
159	963	5.70	2	<2	5	0.6	0.6	202.1	0.04	13.48	0.60	5.54	56.91
160	1009	5.87	<2	<2	6	0.6	0.6	202.7	0.04	13.52	0.63	5.56	57.08

[1] *Calculated values*

Summary - Weeks 0 to 160

Maximum Value	7.64	6	21	101	22	13.0	-	0.11	-	14	-	-
Minimum Value	5.52	<2	<2	2	0.6	0.6	-	0.04	-	0.6	-	-
Average Value	6.13	2	4	12	1.4	1.3	-	0.08	-	1.31	-	-

TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Test Specimen

Sample	Weight (g)
Cyclone U/F - Desulphidized	1000

Changes to Head Sample after 180 Weeks [1]

Parameter	Units	Reference No.: 11249-MAY09
Sulphide ($S^{=}$) Remaining	%	0.04
NP Remaining	t $CaCO_3$/1000 t	3.6
CO_3 NP Remaining	t $CaCO_3$/1000 t	0.16

Leachate Paremeters Measured

Weekly Leach No.	Volume Collected mL	pH units	Acidity $CaCO_3$ eq. mg/L	Alkalinity $CaCO_3$ eq. mg/L	Conductivity µmhos/cm	SO_4 mg/L
161	1002	5.69	3	<2	8	0.8
162	1004	5.88	<2	<2	6	0.6
163	996	5.46	<2	<2	6	0.6
164	1003	5.84	<2	<2	6	0.6
165	991	5.86	<2	<2	5	0.7
166	1003	5.66	2	<2	7	0.7
167	985	5.69	3	<2	11	0.6
168	1000	5.75	2	<2	5	1.0
169	999	5.55	4	<2	11	0.7
170	983	5.90	<2	<2	5	0.6

Acid Generation [1]

SO_4 Production Rate g/t/wk	Cumulative SO_4 Production g/t	Weekly S= Depletion %	Cumulative S= Depletion %
0.8	203.5	0.05	13.57
0.6	204.1	0.04	13.61
0.6	204.7	0.04	13.65
0.6	205.3	0.04	13.69
0.7	206.0	0.05	13.74
0.7	206.7	0.05	13.78
0.6	207.3	0.04	13.82
1.0	208.3	0.07	13.89
0.7	209.0	0.05	13.94
0.6	209.6	0.04	13.98

Acid Neutralization [1]

NP Consumption $CaCO_3$, g/t/wk	Cumulative NP Depletion %	Cumulative CO_3 NP Depletion %
0.84	5.58	57.31
0.63	5.60	57.47
0.62	5.61	57.64
0.63	5.63	57.81
0.72	5.65	58.01
0.73	5.67	58.21
0.62	5.68	58.37
1.04	5.71	58.65
0.73	5.73	58.85
0.61	5.75	59.02

[1] *Calculated values*

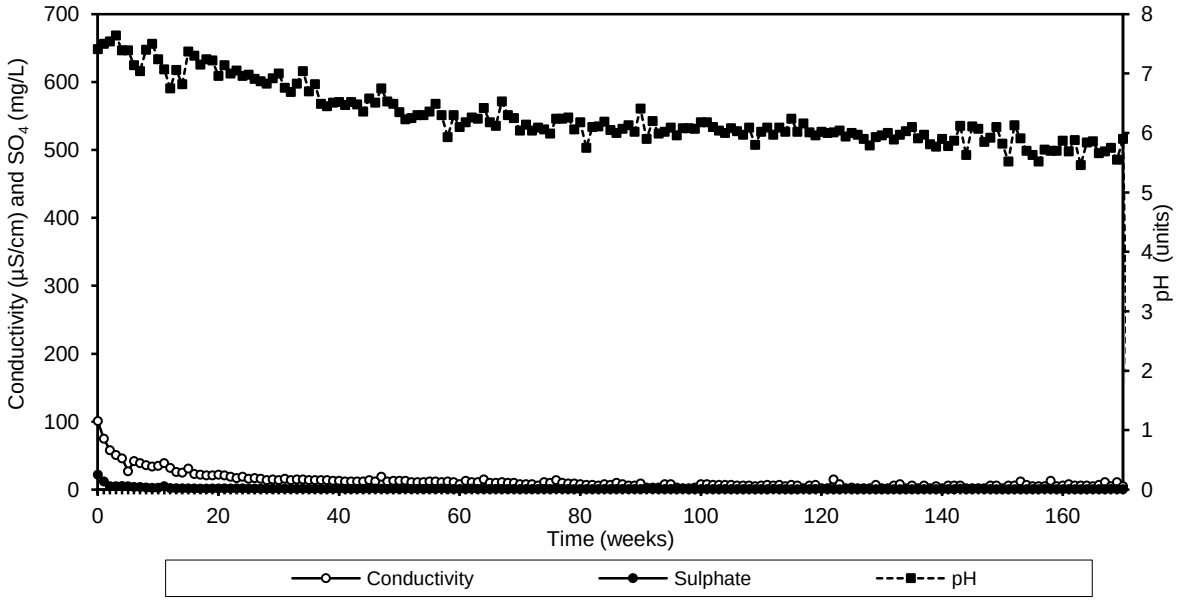
Summary - Weeks 0 to 180

Maximum Value	7.64	6	21	101	22	13.0	-	0.11	-	14	-	-
Minimum Value	5.46	<2	<2	2	0.6	0.6	-	0.04	-	0.6	-	-
Average Value	6.09	2	3	12	1.3	1.2	-	0.08	-	1.28	-	-

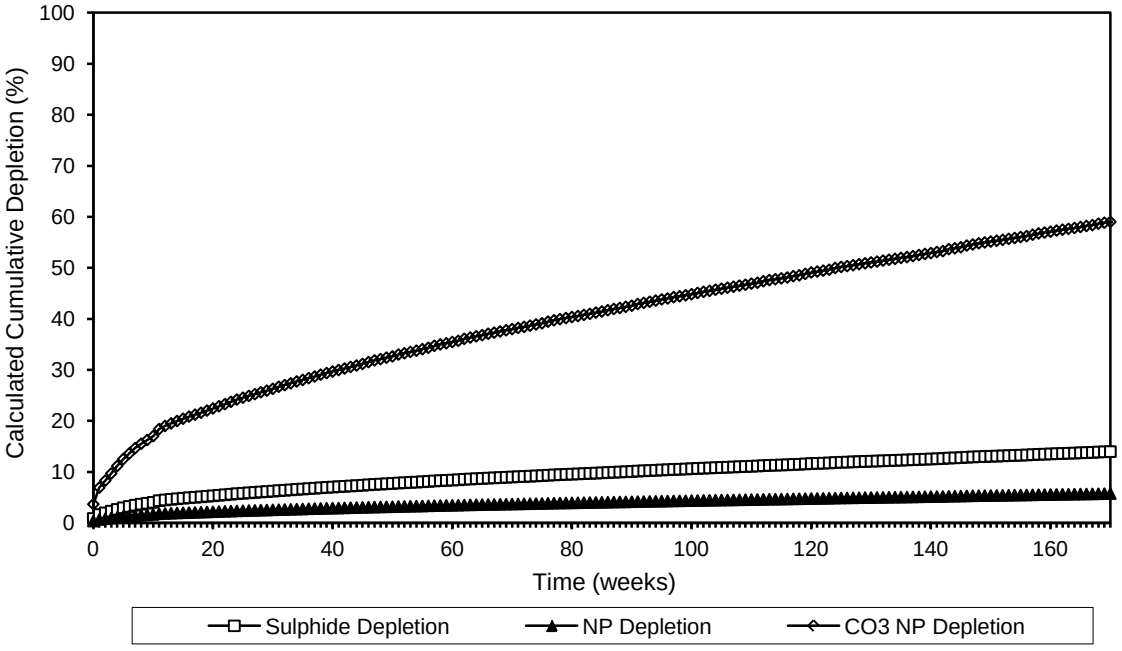
TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Conductivity, Sulphate, and pH in Weekly Humidity Cell Leachate - Cyclone U/F - Desulphidized



Cumulative Sulphide and NP Depletion Cyclone U/F - Desulphidized

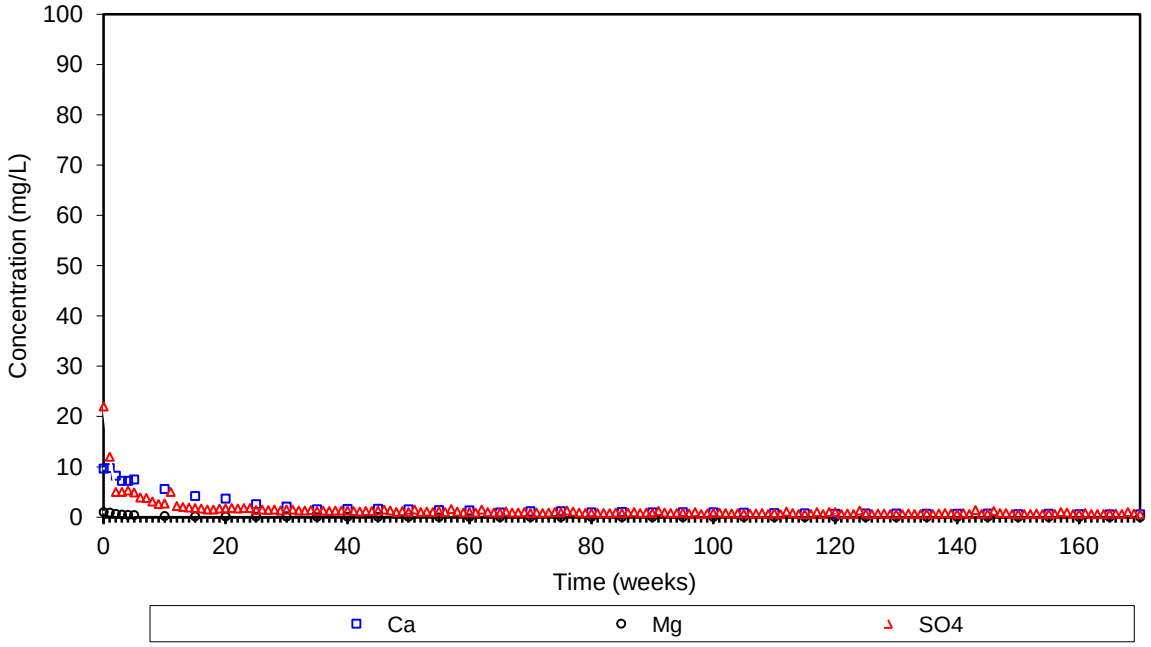


Note: NP depletion calculated based on sulphate assay.

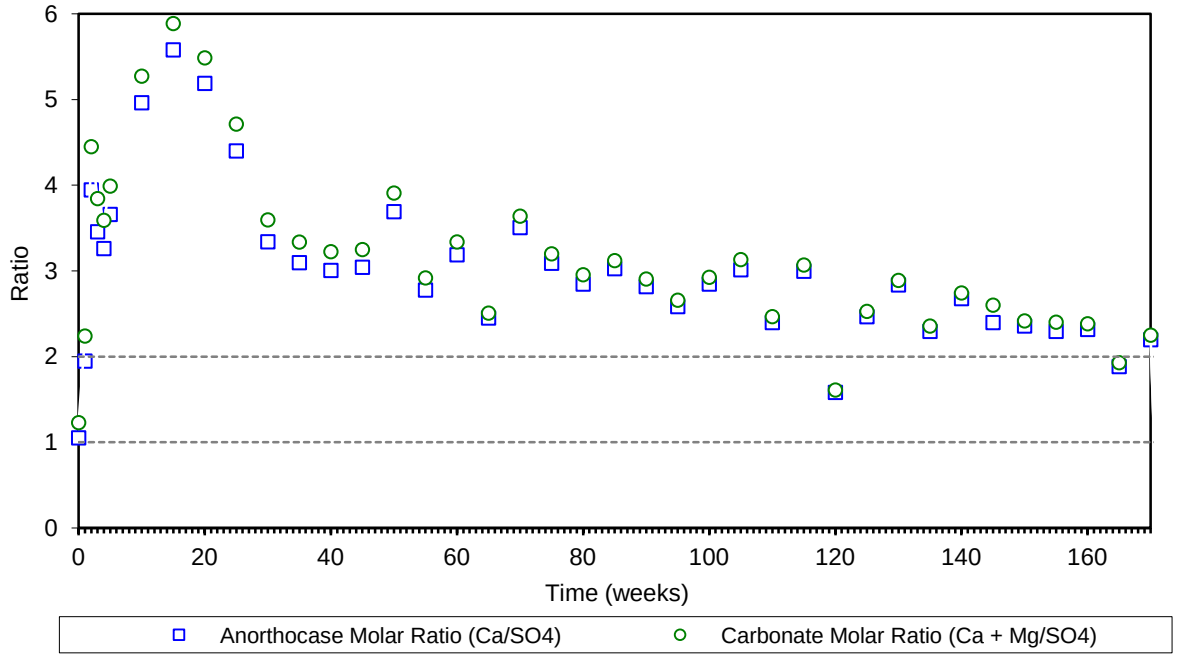
TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Selected Parameters in Weekly Humidity Cell Leachate Cyclone U/F - Desulphidized



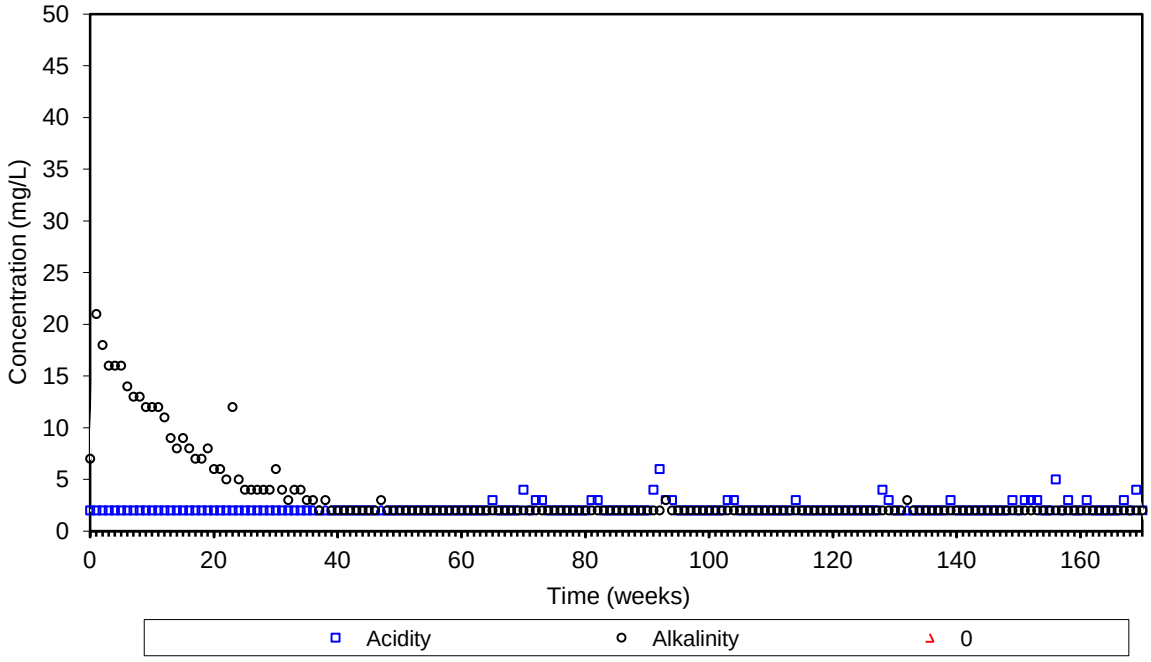
Carbonate (Ca + Mg/SO$_4$) and Anorthoclase (Ca/SO$_4$) Molar Ratios Cyclone U/F - Desulphidized



TEST REPORT

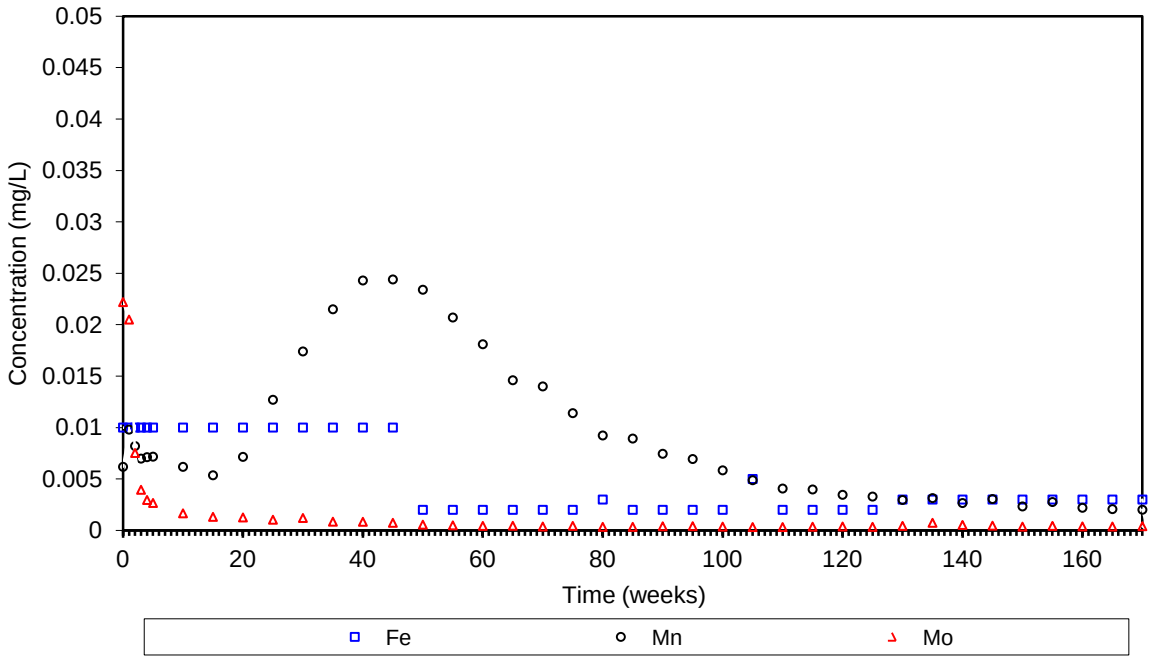
Humidity Cell Test (ASTM D 5744-96)

Selected Parameters in Weekly Humidity Cell Leachate Cyclone U/F - Desulphidized



Note: Acidity and alkalinity have detection limit of 2 mg/L.

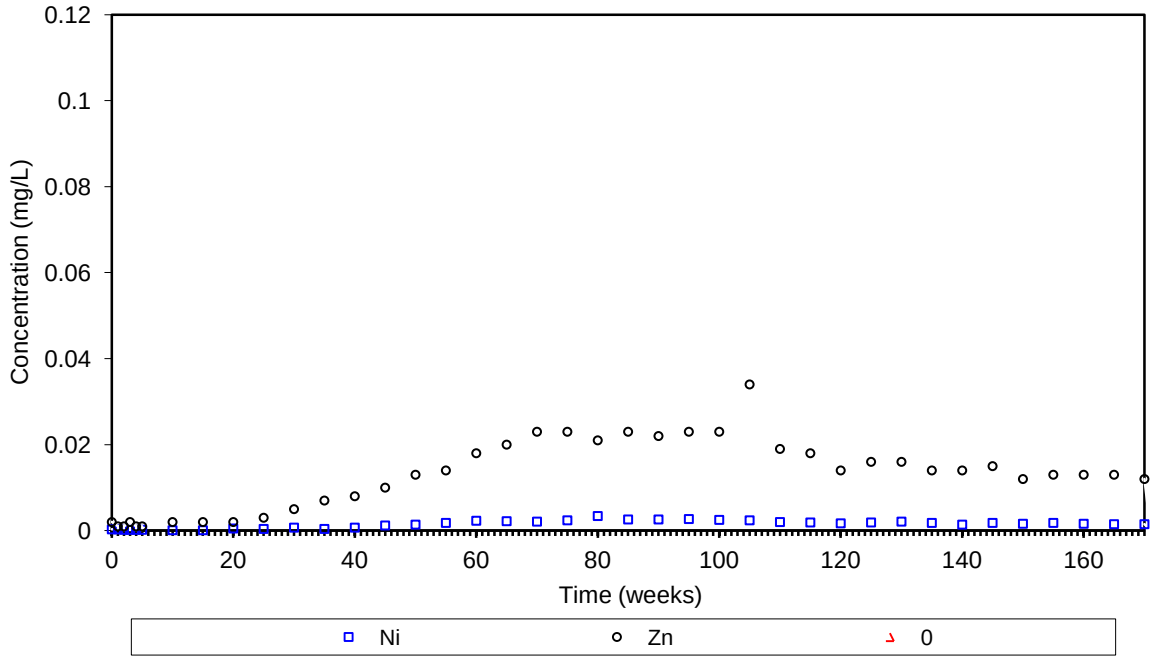
Selected Parameters in Weekly Humidity Cell Leachate Cyclone U/F - Desulphidized



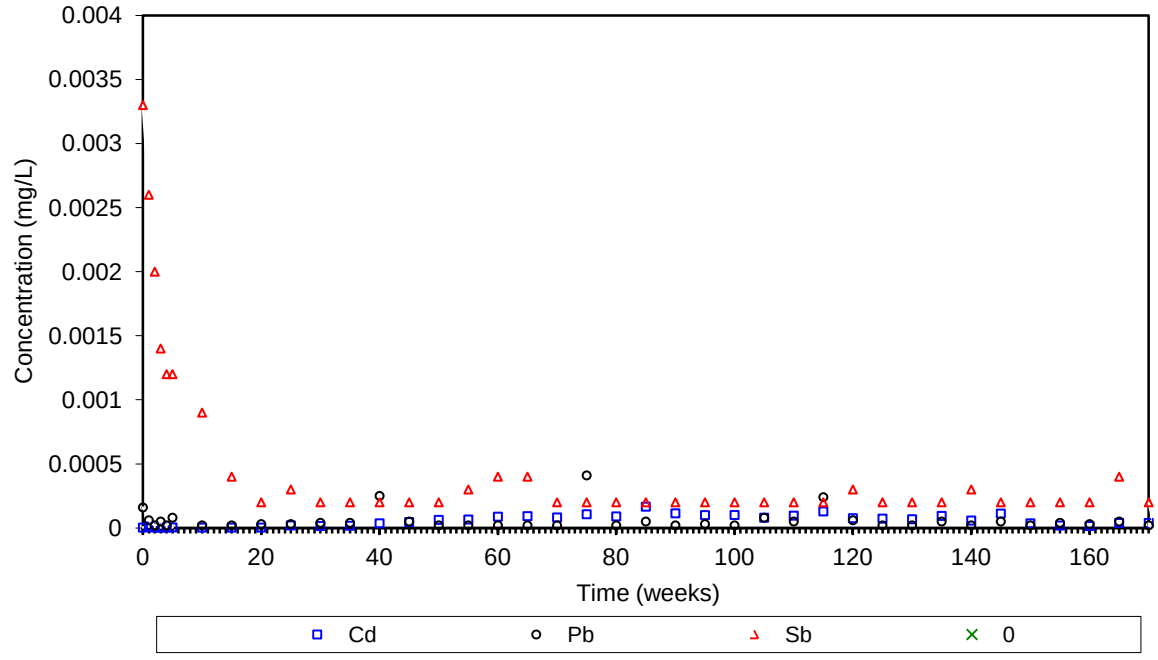
TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Selected Parameters in Weekly Humidity Cell Leachate Cyclone U/F - Desulphidized



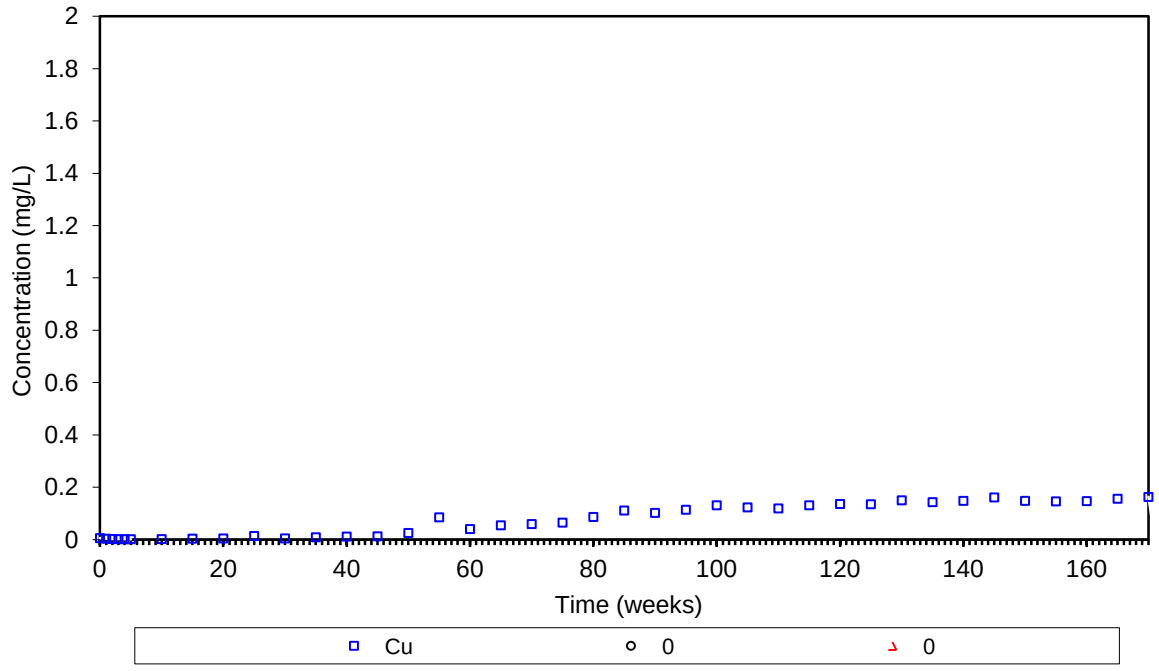
Selected Parameters in Weekly Humidity Cell Leachate Cyclone U/F - Desulphidized



TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Selected Parameters in Weekly Humidity Cell Leachate Cyclone U/F - Desulphidized



Appendix E – Humidity Cell Certificates of Analysis

SGS Lakefield Research Limited
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Phone: 705-652-2000 FAX: 705-652-6365

Project : CALR-12074-002

Environmental Met
Attn : Barb Bowman

Wednesday, June 17, 2009

Date Rec. : 09 June 2009
LR Report: **CA11105-JUN09**
Reference: Wk# 0

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 0	6: Whole Tls Wk# 0	7: Cyclone U/F-Untreated Wk# 0	8: Cyclone U/F-Desulphidized Wk# 0
Sample Date & Time			09-Jun-09	09-Jun-09	09-Jun-09	09-Jun-09
Hum Cell Leachate Volume [mLs]	---	---	421	449	516	592
pH [no unit]	10-Jun-09	14:45	7.05	7.33	7.15	7.41
Alkalinity [mg/L as CaCO3]	10-Jun-09	14:45	13	9	5	7
Acidity [mg/L as CaCO3]	10-Jun-09	14:45	< 2	< 2	< 2	< 2
Conductivity [uS/cm]	10-Jun-09	14:45	198	326	265	101
Sulphate [mg/L]	17-Jun-09	12:31	80	140	100	22
Mercury [mg/L]	15-Jun-09	08:49	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	12-Jun-09	11:59	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Aluminum [mg/L]	11-Jun-09	15:37	< 0.01	< 0.01	0.04	0.09
Arsenic [mg/L]	12-Jun-09	11:59	0.0002	0.0004	0.0013	0.0007
Barium [mg/L]	12-Jun-09	11:59	0.00695	0.0109	0.0187	0.0105
Beryllium [mg/L]	12-Jun-09	11:59	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Boron [mg/L]	12-Jun-09	11:59	0.0042	0.0057	0.0099	0.0086
Bismuth [mg/L]	12-Jun-09	11:59	< 0.00001	0.00002	0.00003	0.00002
Calcium [mg/L]	11-Jun-09	15:37	32.9	52.5	32.3	9.65
Cadmium [mg/L]	12-Jun-09	11:59	0.000067	0.000031	< 0.000003	< 0.000003
Cobalt [mg/L]	12-Jun-09	11:59	0.0151	0.00551	0.000573	0.000152
Chromium [mg/L]	12-Jun-09	11:59	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Copper [mg/L]	12-Jun-09	11:59	0.0536	0.0083	0.0138	0.0055
Iron [mg/L]	11-Jun-09	15:37	< 0.01	< 0.01	< 0.01	< 0.01
Potassium [mg/L]	11-Jun-09	15:37	2.13	7.00	12.8	8.00
Lithium [mg/L]	12-Jun-09	11:59	< 0.001	0.001	0.002	< 0.001
Magnesium [mg/L]	11-Jun-09	15:37	2.25	3.53	3.00	0.988
Manganese [mg/L]	12-Jun-09	11:59	0.313	0.288	0.0431	0.00618
Molybdenum [mg/L]	12-Jun-09	11:59	0.00066	0.00324	0.0753	0.0222
Sodium [mg/L]	11-Jun-09	15:37	0.63	1.50	5.63	2.81
Nickel [mg/L]	12-Jun-09	11:59	0.0177	0.0052	0.0005	0.0003
Lead [mg/L]	12-Jun-09	11:59	0.00003	0.00003	0.00004	0.00016
Antimony [mg/L]	12-Jun-09	11:59	0.0005	0.0010	0.0037	0.0033
Selenium [mg/L]	12-Jun-09	11:59	< 0.001	< 0.001	0.001	< 0.001
Silica [mg/L]	11-Jun-09	15:37	0.11	0.26	0.94	0.68
Tin [mg/L]	12-Jun-09	11:59	0.00370	0.00326	0.0332	0.0183

SGS Lakefield Research Limited
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Project : CALR-12074-002

LR Report : **CA11105-JUN09**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 0	6: Whole Tls Wk# 0	7: Cyclone U/F-Untreated Wk# 0	8: Cyclone U/F-Desulphidized Wk# 0
Strontium [mg/L]	11-Jun-09	15:37	0.0455	0.115	0.123	0.0565
Titanium [mg/L]	12-Jun-09	11:59	0.0006	0.0007	0.0005	0.0008
Thallium [mg/L]	12-Jun-09	11:59	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Uranium [mg/L]	12-Jun-09	11:59	0.000059	0.000044	0.000045	0.000076
Vanadium [mg/L]	12-Jun-09	11:59	< 0.00003	0.00004	0.00028	0.00078
Tungsten [mg/L]	12-Jun-09	11:59	0.00009	0.00007	0.00085	0.00167
Yttrium [mg/L]	12-Jun-09	11:59	0.000005	0.000005	0.000009	0.000006
Zinc [mg/L]	12-Jun-09	11:59	0.010	0.006	0.003	0.002

Dianne Griffin
Project Specialist

OnLine LIMS

SGS Lakefield Research Limited
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Project : CALR-12074-002

Environmental Met
Attn : Barb Bowman

Friday, June 26, 2009

Date Rec. : 16 June 2009
LR Report: **CA11106-JUN09**
Reference: Wk# 1

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 1	6: Whole Tls Wk# 1	7: Cyclone U/F-Untreated Wk# 1	8: Cyclone U/F-Desulphidized Wk# 1
Sample Date & Time			16-Jun-09	16-Jun-09	16-Jun-09	16-Jun-09
Hum Cell Leachate Volume [mLs]	---	---	954	981	974	961
pH [no unit]	19-Jun-09	11:24	6.88	6.80	7.41	7.50
Alkalinity [mg/L as CaCO3]	19-Jun-09	11:24	11	11	16	21
Acidity [mg/L as CaCO3]	19-Jun-09	11:24	12	< 2	< 2	< 2
Conductivity [uS/cm]	19-Jun-09	11:24	308	385	92	75
Sulphate [mg/L]	23-Jun-09	09:04	130	160	22	12
Mercury [mg/L]	22-Jun-09	09:14	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	22-Jun-09	09:14	< 0.00001	< 0.00001	< 0.00001	0.00002
Aluminum [mg/L]	22-Jun-09	09:14	< 0.01	< 0.01	0.02	0.05
Arsenic [mg/L]	22-Jun-09	09:14	0.0008	0.0005	0.0006	0.0009
Barium [mg/L]	22-Jun-09	09:14	0.00430	0.00731	0.0148	0.0140
Beryllium [mg/L]	22-Jun-09	09:14	< 0.00002	< 0.00002	< 0.00002	0.00003
Boron [mg/L]	22-Jun-09	09:14	0.0039	0.0067	0.0103	0.0098
Bismuth [mg/L]	22-Jun-09	09:14	< 0.00001	< 0.00001	< 0.00001	0.00003
Calcium [mg/L]	22-Jun-09	09:14	54.5	64.0	13.2	9.75
Cadmium [mg/L]	22-Jun-09	09:14	0.000059	0.000105	< 0.000003	0.000012
Cobalt [mg/L]	22-Jun-09	09:14	0.00774	0.00886	0.000337	0.000149
Chromium [mg/L]	22-Jun-09	09:14	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Copper [mg/L]	22-Jun-09	09:14	0.0564	0.0771	0.0110	0.0033
Iron [mg/L]	22-Jun-09	09:14	< 0.01	< 0.01	< 0.01	< 0.01
Potassium [mg/L]	22-Jun-09	09:14	4.56	7.40	4.09	4.89
Lithium [mg/L]	22-Jun-09	09:14	0.002	0.001	< 0.001	< 0.001
Magnesium [mg/L]	22-Jun-09	09:14	3.68	4.73	0.946	0.887
Manganese [mg/L]	22-Jun-09	09:14	0.232	0.420	0.0234	0.00980
Molybdenum [mg/L]	22-Jun-09	09:14	0.00072	0.00262	0.0503	0.0205
Sodium [mg/L]	22-Jun-09	09:14	0.97	1.56	0.59	0.78
Nickel [mg/L]	22-Jun-09	09:14	0.0106	0.0082	0.0004	0.0003
Lead [mg/L]	22-Jun-09	09:14	< 0.00002	< 0.00002	0.00002	0.00006
Antimony [mg/L]	22-Jun-09	09:14	0.0003	0.0004	0.0024	0.0026
Selenium [mg/L]	22-Jun-09	09:14	0.002	0.002	< 0.001	< 0.001
Silica [mg/L]	22-Jun-09	09:14	0.25	0.60	1.56	1.57

SGS Lakefield Research Limited
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Phone: 705-652-2000 FAX: 705-652-6365

Project : CALR-12074-002

LR Report : **CA11106-JUN09**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 1	6: Whole Tls Wk# 1	7: Cyclone U/F-Untreated Wk# 1	8: Cyclone U/F-Desulphidized Wk# 1
Tin [mg/L]	22-Jun-09	09:14	0.00092	0.00076	0.00971	0.00547
Strontium [mg/L]	22-Jun-09	09:14	0.0826	0.143	0.0708	0.0536
Titanium [mg/L]	22-Jun-09	09:14	0.0005	0.0006	0.0001	0.0002
Thallium [mg/L]	22-Jun-09	09:14	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Uranium [mg/L]	22-Jun-09	09:14	0.000020	0.000066	0.000007	0.000245
Vanadium [mg/L]	22-Jun-09	09:14	< 0.00003	< 0.00003	0.00022	0.00091
Tungsten [mg/L]	22-Jun-09	09:14	< 0.00003	< 0.00003	0.00228	0.00350
Yttrium [mg/L]	22-Jun-09	09:14	0.000003	0.000011	< 0.000001	0.000038
Zinc [mg/L]	22-Jun-09	09:14	0.010	0.018	0.003	0.001

Dianne Griffin
Project Specialist

OnLine LIMS

SGS Lakefield Research Limited
P.O. Box 4300 - 185 Concession St.
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Phone: 705-652-2000 FAX: 705-652-6365

Project : CALR-12074-002

Environmental Met
Attn : Barb Bowman

Monday, June 29, 2009

Date Rec. : 23 June 2009
LR Report: **CA11107-JUN09**
Reference: Wk# 2

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 2	6: Whole Tls Wk# 2	7: Cyclone U/F-Untreated Wk# 2	8: Cyclone U/F-Desulphidized Wk# 2
Sample Date & Time			23-Jun-09	23-Jun-09	23-Jun-09	23-Jun-09
Hum Cell Leachate Volume [mLs]	---	---	976	989	987	983
pH [no unit]	29-Jun-09	15:41	6.79	6.68	7.39	7.54
Alkalinity [mg/L as CaCO3]	29-Jun-09	15:41	9	7	15	18
Acidity [mg/L as CaCO3]	29-Jun-09	15:41	---	---	< 2	< 2
Acidity [mg/L as CaCO3]	29-Jun-09	15:41	16	< 2	---	---
Conductivity [uS/cm]	29-Jun-09	15:41	333	333	62	58
Sulphate [mg/L]	26-Jun-09	13:01	140	140	8.8	5.0
Mercury [mg/L]	24-Jun-09	14:43	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	25-Jun-09	15:46	0.00002	< 0.00001	< 0.00001	< 0.00001
Aluminum [mg/L]	25-Jun-09	08:39	0.02	0.04	0.01	0.05
Arsenic [mg/L]	25-Jun-09	15:46	0.0004	0.0009	0.0007	0.0007
Barium [mg/L]	25-Jun-09	15:46	0.00321	0.00589	0.0223	0.0181
Beryllium [mg/L]	25-Jun-09	15:46	0.00004	0.00006	< 0.00002	< 0.00002
Boron [mg/L]	25-Jun-09	15:46	0.0042	0.0059	0.0050	0.0046
Bismuth [mg/L]	25-Jun-09	15:46	0.00001	0.00003	< 0.00001	< 0.00001
Calcium [mg/L]	25-Jun-09	08:39	54.4	55.6	9.55	8.23
Cadmium [mg/L]	25-Jun-09	15:46	0.000076	0.000095	0.000018	< 0.000003
Cobalt [mg/L]	25-Jun-09	15:46	0.00685	0.00626	0.000237	0.000072
Chromium [mg/L]	25-Jun-09	15:46	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Copper [mg/L]	25-Jun-09	15:46	0.364	0.143	0.0092	0.0023
Iron [mg/L]	25-Jun-09	08:39	< 0.01	< 0.01	< 0.01	< 0.01
Potassium [mg/L]	25-Jun-09	08:39	5.25	5.51	2.17	3.04
Lithium [mg/L]	25-Jun-09	15:46	0.002	0.001	0.001	< 0.001
Magnesium [mg/L]	25-Jun-09	08:39	4.81	2.82	0.569	0.638
Manganese [mg/L]	25-Jun-09	15:46	0.208	0.259	0.0185	0.00820
Molybdenum [mg/L]	25-Jun-09	15:46	0.00069	0.00184	0.0227	0.00753
Sodium [mg/L]	25-Jun-09	08:39	1.14	0.95	0.10	0.18
Nickel [mg/L]	25-Jun-09	15:46	0.0105	0.0068	0.0003	0.0002
Lead [mg/L]	25-Jun-09	15:46	0.00002	0.00003	< 0.00002	< 0.00002
Antimony [mg/L]	25-Jun-09	15:46	0.0003	0.0005	0.0020	0.0020
Selenium [mg/L]	25-Jun-09	15:46	< 0.001	< 0.001	< 0.001	< 0.001
Silica [mg/L]	25-Jun-09	08:39	0.27	0.54	1.35	1.43

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Project : CALR-12074-002

LR Report : **CA11107-JUN09**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 2	6: Whole Tls Wk# 2	7: Cyclone U/F-Untreated Wk# 2	8: Cyclone U/F-Desulphidized Wk# 2
Tin [mg/L]	25-Jun-09	15:46	0.00031	0.00032	0.00127	0.00106
Strontium [mg/L]	25-Jun-09	08:39	0.0868	0.115	0.0572	0.0444
Titanium [mg/L]	25-Jun-09	15:46	< 0.0001	< 0.0001	< 0.0001	0.0003
Thallium [mg/L]	25-Jun-09	15:46	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Uranium [mg/L]	25-Jun-09	15:46	0.000040	0.000058	0.000007	0.000129
Vanadium [mg/L]	25-Jun-09	15:46	< 0.00003	0.00003	0.00019	0.00095
Tungsten [mg/L]	25-Jun-09	15:46	< 0.00003	< 0.00003	0.00190	0.00231
Yttrium [mg/L]	25-Jun-09	15:46	0.000026	0.000024	0.000002	0.000002
Zinc [mg/L]	25-Jun-09	15:46	0.013	0.014	0.003	0.001

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Environmental Met
Attn : Barb Bowman

Tuesday, July 14, 2009

Date Rec. : 07 July 2009
LR Report: **CA10009-JUL09**
Reference: Wk#4

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#4	6: Whole Tls Wk#4	7: Cyclone U/F-Untreated Wk#4	8: Cyclone U/F-Desulphidized Wk#4
Sample Date & Time			07-July-09	07-July-09	07-July-09	07-July-09
Hum Cell Leachate Volume [mLs]	---	---	973	985	988	984
pH [no unit]	08-Jul-09	08:23	6.30	6.56	7.33	7.39
Alkalinity [mg/L as CaCO3]	08-Jul-09	08:23	5	5	14	16
Acidity [mg/L as CaCO3]	08-Jul-09	08:23	< 2	< 2	< 2	< 2
Conductivity [uS/cm]	08-Jul-09	08:23	331	279	49	46
Sulphate [mg/L]	09-Jul-09	13:54	150	120	7.4	5.3
Mercury [mg/L]	10-Jul-09	14:47	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	10-Jul-09	14:47	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Aluminum [mg/L]	09-Jul-09	12:20	0.03	< 0.01	< 0.01	0.04
Arsenic [mg/L]	10-Jul-09	14:47	0.0006	0.0004	0.0005	0.0008
Barium [mg/L]	10-Jul-09	14:47	0.00330	0.00393	0.0364	0.0218
Beryllium [mg/L]	10-Jul-09	14:47	0.00003	< 0.00002	< 0.00002	< 0.00002
Boron [mg/L]	10-Jul-09	14:47	0.0057	0.0053	0.0024	0.0020
Bismuth [mg/L]	10-Jul-09	14:47	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Calcium [mg/L]	09-Jul-09	12:20	52.6	47.3	7.81	7.21
Cadmium [mg/L]	10-Jul-09	14:47	0.000093	0.000050	0.000012	< 0.000003
Cobalt [mg/L]	10-Jul-09	14:47	0.00768	0.00380	0.000194	0.000043
Chromium [mg/L]	10-Jul-09	14:47	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Copper [mg/L]	10-Jul-09	14:47	0.597	0.0626	0.0087	0.0015
Iron [mg/L]	09-Jul-09	12:20	< 0.01	< 0.01	< 0.01	< 0.01
Potassium [mg/L]	09-Jul-09	12:20	4.43	3.57	1.17	1.50
Lithium [mg/L]	10-Jul-09	14:47	0.001	< 0.001	< 0.001	< 0.001
Magnesium [mg/L]	09-Jul-09	12:20	4.22	1.64	0.362	0.442
Manganese [mg/L]	10-Jul-09	14:47	0.204	0.158	0.0150	0.00712
Molybdenum [mg/L]	10-Jul-09	14:47	0.00021	0.00098	0.0132	0.00296
Sodium [mg/L]	09-Jul-09	12:20	0.88	0.50	0.02	0.03
Nickel [mg/L]	10-Jul-09	14:47	0.0114	0.0040	< 0.0001	0.0002
Lead [mg/L]	10-Jul-09	14:47	< 0.00002	0.00050	0.00005	< 0.00002
Antimony [mg/L]	10-Jul-09	14:47	< 0.0002	0.0002	0.0014	0.0012

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Project : CALR-12074-002

LR Report : **CA10009-JUL09**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#4	6: Whole Tls Wk#4	7: Cyclone U/F-Untreated Wk#4	8: Cyclone U/F-Desulphidized Wk#4
Selenium [mg/L]	10-Jul-09	14:47	< 0.001	< 0.001	< 0.001	< 0.001
Silica [mg/L]	09-Jul-09	12:20	0.36	0.45	1.26	1.39
Tin [mg/L]	10-Jul-09	14:47	0.00016	0.00019	0.00058	0.00050
Strontium [mg/L]	09-Jul-09	12:20	0.0877	0.0847	0.0501	0.0394
Titanium [mg/L]	10-Jul-09	14:47	< 0.0001	< 0.0001	0.0002	0.0003
Thallium [mg/L]	10-Jul-09	14:47	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Uranium [mg/L]	10-Jul-09	14:47	0.000033	0.000035	< 0.000001	0.000084
Vanadium [mg/L]	10-Jul-09	14:47	0.00004	0.00005	0.00018	0.00087
Tungsten [mg/L]	10-Jul-09	14:47	< 0.00003	< 0.00003	0.00148	0.00127
Yttrium [mg/L]	10-Jul-09	14:47	0.000053	0.000012	< 0.000001	< 0.000001
Zinc [mg/L]	10-Jul-09	14:47	0.015	0.006	0.002	< 0.001

Dianne Griffin
Project Specialist

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Project : CALR-12074-002

Environmental Met
Attn : Barb Bowman

Wednesday, July 22, 2009

Date Rec. : 14 July 2009
LR Report: **CA10027-JUL09**
Reference: Wk# 5

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 5	6: Whole Tls Wk# 5	7: Cyclone U/F-Untreated Wk# 5	8: Cyclone U/F-Desulphidized Wk# 5
Sample Date & Time			14-July-09	14-July-09	14-July-09	14-July-09
Hum Cell Leachate Volume [mLs]	---	---	985	993	965	977
pH [no unit]	17-Jul-09	09:44	6.43	6.50	7.26	7.39
Alkalinity [mg/L as CaCO3]	15-Jul-09	15:30	3	5	13	16
Acidity [mg/L as CaCO3]	15-Jul-09	15:30	3	< 2	< 2	< 2
Conductivity [uS/cm]	15-Jul-09	15:30	284	106	12	27
Sulphate [mg/L]	21-Jul-09	09:07	130	130	7.0	4.9
Mercury [mg/L]	16-Jul-09	15:35	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	16-Jul-09	16:51	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Aluminum [mg/L]	16-Jul-09	12:27	0.09	< 0.01	< 0.01	0.04
Arsenic [mg/L]	16-Jul-09	16:51	< 0.0002	0.0003	0.0003	0.0003
Barium [mg/L]	16-Jul-09	16:51	0.00284	0.00444	0.0489	0.0250
Beryllium [mg/L]	16-Jul-09	16:51	0.00004	< 0.00002	< 0.00002	< 0.00002
Boron [mg/L]	16-Jul-09	16:51	0.0050	0.0056	0.0022	0.0019
Bismuth [mg/L]	16-Jul-09	16:51	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Calcium [mg/L]	16-Jul-09	12:27	47.5	51.0	8.08	7.48
Cadmium [mg/L]	16-Jul-09	16:51	0.000629	0.000144	0.000040	0.000004
Cobalt [mg/L]	16-Jul-09	16:51	0.00678	0.00377	0.000194	0.000048
Chromium [mg/L]	16-Jul-09	16:51	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Copper [mg/L]	16-Jul-09	16:51	0.909	0.0679	0.0092	0.0014
Iron [mg/L]	16-Jul-09	12:27	< 0.01	< 0.01	< 0.01	< 0.01
Potassium [mg/L]	16-Jul-09	12:27	3.84	3.64	1.10	1.32
Lithium [mg/L]	16-Jul-09	16:51	0.001	< 0.001	0.001	< 0.001
Magnesium [mg/L]	16-Jul-09	12:27	3.50	1.60	0.330	0.410
Manganese [mg/L]	16-Jul-09	16:51	0.163	0.146	0.0141	0.00717
Molybdenum [mg/L]	16-Jul-09	16:51	0.00016	0.00069	0.0114	0.00267
Sodium [mg/L]	16-Jul-09	12:28	0.67	0.44	0.03	0.03
Nickel [mg/L]	16-Jul-09	16:51	0.0106	0.0039	0.0003	0.0002
Lead [mg/L]	16-Jul-09	16:51	0.00050	0.00014	0.00016	0.00008
Antimony [mg/L]	16-Jul-09	16:51	0.0002	0.0002	0.0013	0.0012

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Project : CALR-12074-002

LR Report : **CA10027-JUL09**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 5	6: Whole Tls Wk# 5	7: Cyclone U/F-Untreated Wk# 5	8: Cyclone U/F-Desulphidized Wk# 5
Selenium [mg/L]	16-Jul-09	16:51	0.002	< 0.001	< 0.001	< 0.001
Silica [mg/L]	16-Jul-09	12:28	0.34	0.50	1.20	1.34
Tin [mg/L]	16-Jul-09	16:51	0.00016	0.00020	0.00054	0.00044
Strontium [mg/L]	16-Jul-09	12:28	0.0792	0.0890	0.0518	0.0410
Titanium [mg/L]	16-Jul-09	16:51	0.0006	0.0005	0.0001	0.0002
Thallium [mg/L]	16-Jul-09	16:51	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Uranium [mg/L]	16-Jul-09	16:51	0.000050	0.000033	0.000006	0.000090
Vanadium [mg/L]	16-Jul-09	16:51	< 0.00003	< 0.00003	0.00015	0.00082
Tungsten [mg/L]	16-Jul-09	16:51	0.00004	0.00003	0.00132	0.00111
Yttrium [mg/L]	16-Jul-09	16:51	0.000084	0.000013	0.000001	0.000001
Zinc [mg/L]	16-Jul-09	16:51	0.041	0.011	0.004	0.001

Dianne Griffin
Project Specialist

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Project : CALR-12074-002

Environmental Met
Attn : Barb Bowman

Thursday, July 23, 2009

Date Rec. : 21 July 2009
LR Report: **CA10046-JUL09**
Reference: Wk# 6

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 6	6: Whole Tls Wk# 6	7: Cyclone U/F-Untreated Wk# 6	8: Cyclone U/F-Desulphidized Wk# 6
Sample Date & Time			21-July-09	21-July-09	21-July-09	21-July-09
Hum Cell Leachate Volume [mLs]	---	---	988	993	994	991
pH [no unit]	22-Jul-09	10:19	5.84	6.30	7.05	7.14
Alkalinity [mg/L as CaCO3]	22-Jul-09	10:19	< 2	3	13	14
Acidity [mg/L as CaCO3]	22-Jul-09	10:19	4	< 2	< 2	< 2
Conductivity [uS/cm]	22-Jul-09	10:20	272	266	48	42
Sulphate [mg/L]	23-Jul-09	14:16	120	120	6.0	3.9

Dianne Griffin
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Project : CALR-12074-002

Environmental Met
Attn : Barb Bowman

Tuesday, August 04, 2009

Date Rec. : 28 July 2009
LR Report: **CA11076-JUL09**
Reference: Wk#7

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 7	6: Whole Tls WK# 7	7: Cyclone U/F-Untreated Wk# 7	8: Cyclone U/F-Desulphidized Wk# 7
Sample Date & Time			28-Jul-09	28-Jul-09	28-Jul-09	28-Jul-09
Hum Cell Leachate Volume [mLs]	---	---	985	985	995	994
pH [no unit]	29-Jul-09	14:56	5.60	6.13	6.94	7.04
Alkalinity [mg/L as CaCO3]	29-Jul-09	14:56	< 2	3	12	13
Acidity [mg/L as CaCO3]	29-Jul-09	14:56	4	2	< 2	< 2
Conductivity [uS/cm]	29-Jul-09	14:56	286	281	45	39
Sulphate [mg/L]	31-Jul-09	11:29	130	120	6.2	3.8

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Environmental Met
Attn : Barb Bowman

Friday, August 07, 2009

Date Rec. : 04 August 2009
LR Report: **CA10008-AUG09**
Reference: Wk# 8

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 8	6: Whole Tls Wk# 8	7: Cyclone U/F-Untreated Wk# 8	8: Cyclone U/F-Desulphidized Wk# 8
Sample Date & Time			04-Aug-09	04-Aug-09	04-Aug-09	04-Aug-09
Hum Cell Leachate Volume [mLs]	---	---	986	989	971	982
pH [no unit]			5.41	5.93	7.26	7.40
Alkalinity [mg/L as CaCO3]	06-Aug-09	22:21	< 2	< 2	12	13
Acidity [mg/L as CaCO3]	06-Aug-09	22:21	5	< 2	< 2	< 2
Conductivity [uS/cm]	06-Aug-09	22:21	279	266	42	36
Sulphate [mg/L]	06-Aug-09	13:43	120	110	5.7	3.1

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Environmental Met
Attn : Barb Bowman

Wednesday, August 19, 2009

Date Rec. : 11 August 2009
LR Report: **CA10040-AUG09**
Reference: Wk# 9

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 9	6: Whole Tls Wk# 9	7: Cyclone U/F-Untreated Wk# 9	8: Cyclone U/F-Desulphidized Wk# 9
Sample Date & Time			11-Aug-09	11-Aug-09	11-Aug-09	11-Aug-09
Hum Cell Leachate Volume [mLs]	---	---	990	993	992	998
pH [no unit]	17-Aug-09	09:57	5.38	6.11	7.29	7.50
Alkalinity [mg/L as CaCO3]	17-Aug-09	09:57	< 2	2	10	12
Acidity [mg/L as CaCO3]	17-Aug-09	09:57	11	6	< 2	< 2
Conductivity [uS/cm]	17-Aug-09	09:57	308	319	36	34
Sulphate [mg/L]	13-Aug-09	09:08	140	140	4.7	2.6

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Environmental Met
Attn : Barb Bowman

Friday, August 21, 2009

Date Rec. : 18 August 2009
LR Report: **CA10166-AUG09**
Reference: Wk#10

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#10	6: Whole Tls Wk#10	7: Cyclone U/F-Untreated Wk#10	8: Cyclone U/F-Desulphidized Wk#10
Sample Date & Time			18-Aug-09	18-Aug-09	18-Aug-09	18-Aug-09
Hum Cell Leachate Volume [mLs]	---	---	989	989	989	988
pH [no unit]	20-Aug-09	14:47	5.23	5.94	6.99	7.24
Alkalinity [mg/L as CaCO3]	20-Aug-09	14:47	< 2	< 2	9	12
Acidity [mg/L as CaCO3]	20-Aug-09	14:47	10	4	< 2	< 2
Conductivity [uS/cm]	20-Aug-09	14:47	305	290	35	35
Sulphate [mg/L]	21-Aug-09	09:21	150	140	5.1	2.7
Mercury [mg/L]	21-Aug-09	08:47	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	21-Aug-09	08:47	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Aluminum [mg/L]	20-Aug-09	14:54	0.27	0.07	< 0.01	0.04
Arsenic [mg/L]	21-Aug-09	08:47	0.0006	< 0.0002	0.0020	0.0021
Barium [mg/L]	21-Aug-09	08:47	0.00262	0.00405	0.100	0.04708
Beryllium [mg/L]	21-Aug-09	08:47	0.00012	0.00006	< 0.00002	< 0.00002
Boron [mg/L]	21-Aug-09	08:47	0.0053	0.0049	0.0010	0.0007
Bismuth [mg/L]	21-Aug-09	08:47	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Calcium [mg/L]	20-Aug-09	14:54	48.6	50.7	5.89	5.59
Cadmium [mg/L]	21-Aug-09	08:47	0.000172	0.000122	0.000022	< 0.000003
Cobalt [mg/L]	21-Aug-09	08:47	0.0133	0.00623	0.000285	0.000045
Chromium [mg/L]	21-Aug-09	08:47	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Copper [mg/L]	21-Aug-09	08:47	1.52	0.364	0.0158	0.0017
Iron [mg/L]	20-Aug-09	14:54	0.24	< 0.01	< 0.01	< 0.01
Potassium [mg/L]	20-Aug-09	14:54	3.10	2.54	0.65	0.72
Lithium [mg/L]	21-Aug-09	08:47	0.001	< 0.001	< 0.001	< 0.001
Magnesium [mg/L]	20-Aug-09	14:54	2.79	0.958	0.174	0.212
Manganese [mg/L]	21-Aug-09	08:47	0.271	0.173	0.0150	0.00618
Molybdenum [mg/L]	21-Aug-09	08:47	< 0.00001	0.00008	0.00732	0.00166
Sodium [mg/L]	20-Aug-09	14:54	0.39	0.19	0.01	0.01
Nickel [mg/L]	21-Aug-09	08:47	0.0203	0.0074	0.0003	0.0001
Lead [mg/L]	21-Aug-09	08:47	0.00010	0.00004	0.00003	< 0.00002
Antimony [mg/L]	21-Aug-09	08:47	0.0004	0.0004	0.0009	0.0009
Selenium [mg/L]	21-Aug-09	08:47	0.003	< 0.001	< 0.001	< 0.001
Silica [mg/L]	20-Aug-09	14:54	0.60	0.76	1.00	1.22
Tin [mg/L]	21-Aug-09	08:47	0.00043	0.00011	0.00062	0.00042

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Project : CALR-12074-002

LR Report : **CA10166-AUG09**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#10	6: Whole Tls Wk#10	7: Cyclone U/F-Untreated Wk#10	8: Cyclone U/F-Desulphidized Wk#10
Strontium [mg/L]	20-Aug-09	14:54	0.0843	0.0841	0.0341	0.0322
Titanium [mg/L]	21-Aug-09	08:47	< 0.0001	< 0.0001	< 0.0001	0.0001
Thallium [mg/L]	21-Aug-09	08:47	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Uranium [mg/L]	21-Aug-09	08:47	0.000078	0.000285	< 0.000001	0.000048
Vanadium [mg/L]	21-Aug-09	08:47	< 0.00003	< 0.00003	0.00009	0.00084
Tungsten [mg/L]	21-Aug-09	08:47	< 0.00003	< 0.00003	0.00073	0.00073
Yttrium [mg/L]	21-Aug-09	08:47	0.000245	0.000069	0.000003	0.000002
Zinc [mg/L]	21-Aug-09	08:47	0.025	0.015	0.003	0.002

Dianne Griffin
Project Specialist

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Project : CALR-12074-002

Environmental Met
Attn : Barb Bowman

Tuesday, September 01, 2009

Date Rec. : 25 August 2009
LR Report: **CA10183-AUG09**
Reference: Wk#11

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#11	6: Whole Tls Wk#11	7: Cyclone U/F-Untreated Wk#11	8: Cyclone U/F-Desulphidized Wk#11
Sample Date & Time			25-Aug-09	25-Aug-09	25-Aug-09	25-Aug-09
Hum Cell Leachate Volume [mLs]	---	---	984	980	981	997
pH [no unit]	26-Aug-09	09:57	4.85	5.94	6.93	7.07
Alkalinity [mg/L as CaCO3]	26-Aug-09	09:57	< 2	< 2	9	12
Acidity [mg/L as CaCO3]	26-Aug-09	09:57	9	2	< 2	< 2
Conductivity [uS/cm]	26-Aug-09	09:57	298	291	35	39
Sulphate [mg/L]	31-Aug-09	16:04	130	130	4.6	5.0

Dianne Griffin
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Project : CALR-12074-002

Environmental Met
Attn : Barb Bowman

Wednesday, September 09, 2009

Date Rec. : 01 September 2009
LR Report: **CA10006-SEP09**
Reference: Wk# 12

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 12	6: Whole Tls Wk# 12	7: Cyclone U/F-Untreated Wk# 12	8: Cyclone U/F-Desulphidized Wk# 12
Sample Date & Time			01-Sept-09	01-Sept-09	01-Sept-09	01-Sept-09
Hum Cell Leachate Volume [mLs]	---	---	997	1003	992	970
pH [no unit]	02-Sep-09	12:30	5.70	5.46	6.55	6.75
Alkalinity [mg/L as CaCO3]	02-Sep-09	12:30	< 2	< 2	8	11
Acidity [mg/L as CaCO3]	02-Sep-09	12:30	5	6	< 2	< 2
Conductivity [uS/cm]	02-Sep-09	12:30	280	266	32	32
Sulphate [mg/L]	08-Sep-09	12:55	120	120	4.2	2.2

Dianne Griffin
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Project : CALR-12074-002

Environmental Met
Attn : Barb Bowman

Monday, September 21, 2009

Date Rec. : 17 September 2009
LR Report: **CA10355-SEP09**
Reference: Reassay of CA10006-SEP09

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 12
Sample Date & Time			01-Sept-09
pH [units]	21-Sep-09	13:08	4.79

Dianne Griffin
Project Specialist

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Project : CALR-12074-002

Environmental Met
Attn : Barb Bowman

Monday, September 14, 2009

Date Rec. : 08 September 2009
LR Report: **CA10023-SEP09**
Reference: Wk# 13

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 13	6: Whole Tls Wk# 13	7: Cyclone U/F-Untreated Wk# 13	8: Cyclone U/F-Desulphidized Wk# 13
Sample Date & Time			08-Sept-09	08-Sept-09	08-Sept-09	08-Sept-09
Hum Cell Leachate Volume [mLs]	---	---	983	952	842	888
pH [no unit]	14-Sep-09	08:37	4.75	5.66	6.91	7.06
Alkalinity [mg/L as CaCO3]	14-Sep-09	08:37	< 2	< 2	6	9
Acidity [mg/L as CaCO3]	14-Sep-09	08:37	11	3	< 2	< 2
Conductivity [uS/cm]	14-Sep-09	08:37	275	218	26	26
Sulphate [mg/L]	11-Sep-09	16:27	130	97	4.0	2.0

Dianne Griffin
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Project : CALR-12074-002

Environmental Met
Attn : Barb Bowman

Wednesday, September 23, 2009

Date Rec. : 15 September 2009
LR Report: **CA10040-SEP09**
Reference: Wk# 14

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 14	6: Whole Tls Wk# 14	7: Cyclone U/F Untreated WK# 14	8: Cyclone U/F-Desulphidized Wk# 14
Sample Date & Time			15-Sept-09	15-Sept-09	15-Sept-09	15-Sept-09
Hum Cell Leachate Volume [mLs]	---	---	996	870	914	872
pH [no unit]	16-Sep-09	11:07	4.55	4.90	6.69	6.82
Alkalinity [mg/L as CaCO3]	16-Sep-09	11:07	< 2	< 2	6	8
Acidity [mg/L as CaCO3]	16-Sep-09	11:07	14	9	< 2	< 2
Conductivity [uS/cm]	16-Sep-09	11:07	277	164	24	25
Sulphate [mg/L]	21-Sep-09	12:44	130	74	4.0	1.9

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Project : CALR-12074-002

Environmental Met
Attn : Barb Bowman

Monday, September 28, 2009

Date Rec. : 22 September 2009
LR Report: **CA10155-SEP09**
Reference: Wk# 15

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 15	6: Whole Tls Wk# 15	7: Cyclone U/F-Untreated Wk# 15	8: Cyclone U/F-Desulphidized Wk# 15
Sample Date & Time			22-Sep-09	22-Sep-09	22-Sep-09	22-Sep-09
Hum Cell Leachate Volume [mLs]	---	---	992	963	860	877
pH [no unit]	28-Sep-09	09:04	4.47	5.08	6.98	4.93
Alkalinity [mg/L as CaCO3]	28-Sep-09	09:04	< 2	< 2	6	9
Acidity [mg/L as CaCO3]	28-Sep-09	09:04	13	8	< 2	< 2
Conductivity [uS/cm]	28-Sep-09	09:04	255	208	23	31
Sulphate [mg/L]	25-Sep-09	08:54	110	100	3.9	1.8
Mercury [mg/L]	25-Sep-09	15:13	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	24-Sep-09	15:22	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Aluminum [mg/L]	27-Sep-09	14:25	0.72	0.57	< 0.01	0.03
Arsenic [mg/L]	24-Sep-09	15:22	< 0.0002	0.0003	0.0003	0.0006
Barium [mg/L]	24-Sep-09	15:22	0.00288	0.00382	0.0913	0.0719
Beryllium [mg/L]	24-Sep-09	15:22	0.00030	0.00030	< 0.00002	< 0.00002
Boron [mg/L]	24-Sep-09	15:22	0.0036	0.0034	0.0007	0.0004
Bismuth [mg/L]	24-Sep-09	15:22	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Calcium [mg/L]	27-Sep-09	14:25	38.2	32.7	3.62	4.19
Cadmium [mg/L]	24-Sep-09	15:22	0.000431	0.000374	0.000022	< 0.000003
Cobalt [mg/L]	24-Sep-09	15:22	0.0288	0.0198	0.000453	0.000097
Chromium [mg/L]	24-Sep-09	15:22	0.0005	< 0.0005	< 0.0005	< 0.0005
Copper [mg/L]	24-Sep-09	15:22	2.49	1.29	0.0282	0.0036
Iron [mg/L]	27-Sep-09	14:25	0.48	0.06	< 0.01	< 0.01
Potassium [mg/L]	27-Sep-09	14:25	2.00	1.60	0.39	0.50
Lithium [mg/L]	24-Sep-09	15:22	0.003	0.002	< 0.001	< 0.001
Magnesium [mg/L]	27-Sep-09	14:25	1.66	0.532	0.103	0.140
Manganese [mg/L]	24-Sep-09	15:22	0.492	0.260	0.0148	0.00536
Molybdenum [mg/L]	24-Sep-09	15:22	0.00103	0.00024	0.00486	0.00132
Sodium [mg/L]	27-Sep-09	14:25	0.15	0.06	< 0.01	< 0.01
Nickel [mg/L]	24-Sep-09	15:22	0.0385	0.0203	0.0004	< 0.0001
Lead [mg/L]	24-Sep-09	15:22	0.00031	0.00010	< 0.00002	0.00002
Antimony [mg/L]	24-Sep-09	15:22	0.0002	0.0003	0.0004	0.0004

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Project : CALR-12074-002

LR Report : **CA10155-SEP09**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 15	6: Whole Tls Wk# 15	7: Cyclone U/F-Untreated Wk# 15	8: Cyclone U/F-Desulphidized Wk# 15
Selenium [mg/L]	24-Sep-09	15:22	0.001	< 0.001	< 0.001	< 0.001
Silica [mg/L]	27-Sep-09	14:25	0.82	0.99	0.68	0.91
Tin [mg/L]	24-Sep-09	15:22	0.00053	0.00022	0.00055	0.00040
Strontium [mg/L]	27-Sep-09	14:25	0.0664	0.0576	0.0178	0.0244
Titanium [mg/L]	24-Sep-09	15:22	0.0005	0.0004	< 0.0001	0.0006
Thallium [mg/L]	24-Sep-09	15:22	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Uranium [mg/L]	24-Sep-09	15:22	0.000673	0.000240	0.000029	0.000033
Vanadium [mg/L]	24-Sep-09	15:22	< 0.00003	< 0.00003	0.00006	0.00061
Tungsten [mg/L]	24-Sep-09	15:22	< 0.00003	< 0.00003	0.00031	0.00051
Yttrium [mg/L]	24-Sep-09	15:22	0.000437	0.000304	0.000006	0.000004
Zinc [mg/L]	24-Sep-09	15:22	0.054	0.064	0.005	0.002

Dianne Griffin
Project Specialist

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Project : CALR-12074-002

Environmental Met
Attn : Barb Bowman

Tuesday, October 20, 2009

Date Rec. : 02 October 2009
LR Report: **CA11017-OCT09**

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Desulphidized Wk# 15
Sample Date & Time			22-Sep-09
pH [no unit]	15-Oct-09	13:18	7.37

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Environmental Met
Attn : Barb Bowman

Thursday, October 01, 2009

Date Rec. : 29 September 2009
LR Report: **CA11062-SEP09**
Reference: Wk#16

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#16	6: Whole Tls Wk#16	7: Cyclone U/F-Untreated Wk#16	8: Cyclone U/F-Desulphidized Wk#16
Sample Date & Time			29-Sep-09	29-Sep-09	29-Sep-09	29-Sep-09
Hum Cell Leachate Volume [mLs]	---	---	987	881	880	885
pH [no unit]	30-Sep-09	08:57	4.56	5.05	7.07	7.30
Alkalinity [mg/L as CaCO3]	30-Sep-09	08:57	< 2	< 2	6	8
Acidity [mg/L as CaCO3]	30-Sep-09	08:57	15	9	< 2	< 2
Conductivity [uS/cm]	30-Sep-09	08:57	252	172	22	23
Sulphate [mg/L]	01-Oct-09	10:46	110	71	3.6	1.7

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Environmental Met
Attn : Barb Bowman

Tuesday, October 20, 2009

Date Rec. : 06 October 2009
LR Report: **CA10018-OCT09**
Reference: Wk#17

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#17	6: Whole Tls Wk#17	7: Cyclone U/F-Untreated Wk#17	8: Cyclone U/F-Desulphidized Wk#17
Sample Date & Time			06-Oct-09	06-Oct-09	06-Oct-09	06-Oct-09
Hum Cell Leachate Volume [mLs]	---	---	988	889	907	893
pH [no unit]	07-Oct-09	14:00	4.37	4.82	6.87	7.15
Alkalinity [mg/L as CaCO3]	07-Oct-09	14:00	< 2	< 2	4	7
Acidity [mg/L as CaCO3]	07-Oct-09	14:00	17	11	< 2	< 2
Conductivity [uS/cm]	07-Oct-09	14:00	277	178	22	22
Sulphate [mg/L]	13-Oct-09	15:48	120	71	3.5	1.5

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Environmental Met
Attn : Barb Bowman

Tuesday, October 20, 2009

Date Rec. : 13 October 2009
LR Report: **CA11051-OCT09**
Reference: Wk#18

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#18	6: Whole Tls Wk#18	7: Cyclone U/F-Untreated Wk#18	8: Cyclone U/F-Desulphidized Wk#18
Sample Date & Time			13-Oct-09	13-Oct-09	13-Oct-09	13-Oct-09
Hum Cell Leachate Volume [mLs]	---	---	994	1004	888	891
pH [no unit]	14-Oct-09	10:04	4.60	4.74	6.94	7.24
Alkalinity [mg/L as CaCO3]	14-Oct-09	10:04	< 2	< 2	4	7
Acidity [mg/L as CaCO3]	14-Oct-09	10:04	20	17	< 2	< 2
Conductivity [uS/cm]	14-Oct-09	10:04	254	240	20	21
Sulphate [mg/L]	16-Oct-09	12:34	110	100	3.2	1.5

Dianne Griffin
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Project : CALR-12074-002

Environmental Met
Attn : Barb Bowman

Tuesday, October 27, 2009

Date Rec. : 20 October 2009
LR Report: **CA11061-OCT09**
Reference: Wk#19

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#19	6: Whole Tls Wk#19	7: Cyclone U/F-Untreated Wk#19	8: Cyclone U/F-Desulphidized Wk#19
Sample Date & Time			20-Oct-09	20-Oct-09	20-Oct-09	20-Oct-09
Hum Cell Leachate Volume [mLs]	---	---	995	879	902	883
pH [no unit]	21-Oct-09	11:19	4.27	4.88	6.91	7.22
Alkalinity [mg/L as CaCO3]	21-Oct-09	11:19	< 2	< 2	3	8
Acidity [mg/L as CaCO3]	21-Oct-09	11:19	23	14	< 2	< 2
Conductivity [uS/cm]	21-Oct-09	11:19	263	164	22	21
Sulphate [mg/L]	23-Oct-09	13:25	110	71	3.7	1.7

Dianne Griffin
Project Specialist

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Project : CALR-12074-002

Environmental Met
Attn : Barb Bowman

Thursday, November 12, 2009

Date Rec. : 27 October 2009
LR Report: **CA11170-OCT09**
Reference: Wk#20

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#20	6: Whole Tls Wk#20	7: Cyclone U/F-Untreated Wk#20	8: Cyclone U/F-Desulphidized Wk#20
Sample Date & Time			27-Oct-09	27-Oct-09	27-Oct-09	27-Oct-09
Hum Cell Leachate Volume [mLs]	---	---	993	938	894	865
pH [no unit]	29-Oct-09	11:35	4.19	4.50	6.60	6.96
Alkalinity [mg/L as CaCO3]	29-Oct-09	11:35	< 2	< 2	3	6
Acidity [mg/L as CaCO3]	29-Oct-09	11:35	29	25	< 2	< 2
Conductivity [uS/cm]	29-Oct-09	11:35	287	219	20	22
Sulphate [mg/L]	05-Nov-09	09:51	130	96	3.8	1.7
Mercury [mg/L]	28-Oct-09	12:39	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	05-Nov-09	13:57	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Aluminum [mg/L]	05-Nov-09	12:08	2.18	2.59	< 0.01	0.04
Arsenic [mg/L]	05-Nov-09	13:57	0.0002	0.0003	< 0.0002	0.0004
Barium [mg/L]	05-Nov-09	13:57	0.00233	0.00307	0.105	0.108
Beryllium [mg/L]	05-Nov-09	13:57	0.00081	0.00109	< 0.00002	< 0.00002
Boron [mg/L]	05-Nov-09	13:57	0.0039	0.0035	0.0006	0.0004
Bismuth [mg/L]	05-Nov-09	13:57	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Calcium [mg/L]	05-Nov-09	13:57	41.6	33.6	3.13	3.68
Cadmium [mg/L]	05-Nov-09	13:57	0.00107	0.00140	0.000056	< 0.000003
Cobalt [mg/L]	05-Nov-09	13:57	0.0736	0.0723	0.00109	0.000105
Chromium [mg/L]	05-Nov-09	13:57	0.0012	< 0.0005	< 0.0005	< 0.0005
Copper [mg/L]	05-Nov-09	13:57	4.58	3.13	0.0503	0.0043
Iron [mg/L]	05-Nov-09	12:13	1.23	0.30	< 0.01	< 0.01
Potassium [mg/L]	05-Nov-09	12:13	2.09	1.94	0.37	0.50
Lithium [mg/L]	05-Nov-09	13:57	0.005	0.004	< 0.001	< 0.001
Magnesium [mg/L]	05-Nov-09	12:13	1.55	0.694	0.098	0.128
Manganese [mg/L]	05-Nov-09	13:58	0.899	0.479	0.0227	0.00715
Molybdenum [mg/L]	05-Nov-09	13:58	< 0.00001	< 0.00001	0.00361	0.00126
Sodium [mg/L]	05-Nov-09	12:13	0.10	0.04	< 0.01	< 0.01
Nickel [mg/L]	05-Nov-09	13:58	0.122	0.0749	0.0012	0.0005
Lead [mg/L]	05-Nov-09	13:58	0.00014	0.00011	< 0.00002	0.00003
Antimony [mg/L]	05-Nov-09	13:58	< 0.0002	< 0.0002	< 0.0002	< 0.0002

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Project : CALR-12074-002

LR Report : **CA11170-OCT09**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#20	6: Whole Tls Wk#20	7: Cyclone U/F-Untreated Wk#20	8: Cyclone U/F-Desulphidized Wk#20
Selenium [mg/L]	05-Nov-09	13:58	0.003	0.003	< 0.001	< 0.001
Silica [mg/L]	05-Nov-09	12:14	1.76	2.19	0.91	1.04
Tin [mg/L]	05-Nov-09	13:58	0.00051	0.00013	0.00104	0.00051
Strontium [mg/L]	05-Nov-09	12:14	0.0783	0.0718	0.0144	0.0221
Titanium [mg/L]	05-Nov-09	13:58	0.0013	0.0009	< 0.0001	0.0003
Thallium [mg/L]	05-Nov-09	13:58	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Uranium [mg/L]	05-Nov-09	13:58	0.000250	0.000228	< 0.000001	0.000001
Vanadium [mg/L]	05-Nov-09	13:58	< 0.00003	< 0.00003	< 0.00003	0.00043
Tungsten [mg/L]	05-Nov-09	13:58	< 0.00003	< 0.00003	0.00012	0.00047
Yttrium [mg/L]	05-Nov-09	13:58	0.000904	0.000638	0.000003	< 0.000001
Zinc [mg/L]	05-Nov-09	13:58	0.140	0.278	0.011	0.002

Dianne Griffin
Project Specialist

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Project : CALR-12074-002

Environmental Met
Attn : Barb Bowman

Friday, November 13, 2009

Date Rec. : 03 November 2009
LR Report: **CA10011-NOV09**
Reference: Wk# 21

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 21	6: Whole Tls Wk# 21	7: Cyclone U/F-Untreated Wk# 21	8: Cyclone U/F-Desulphidized Wk# 21
Sample Date & Time			03-Nov-09	03-Nov-09	03-Nov-09	03-Nov-09
Hum Cell Leachate Volume [mLs]	---	---	988	869	992	869
pH [no unit]	04-Nov-09	15:52	4.16	4.60	6.76	7.14
Alkalinity [mg/L as CaCO3]	04-Nov-09	15:52	< 2	< 2	3	6
Acidity [mg/L as CaCO3]	04-Nov-09	15:52	33	26	< 2	< 2
Conductivity [uS/cm]	04-Nov-09	15:52	291	184	20	21
Sulphate [mg/L]	09-Nov-09	16:26	120	80	3.6	1.8

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Environmental Met
Attn : Barb Bowman

Wednesday, November 18, 2009

Date Rec. : 10 November 2009
LR Report: **CA11047-NOV09**
Reference: Wk# 22

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 22	6: Whole Tls Wk# 22	7: Cyclone U/F-Untreated Wk# 22	8: Cyclone U/F-Desulphidized Wk# 22
Sample Date & Time			10-Nov-09	10-Nov-09	10-Nov-10	10-Nov-10
Hum Cell Leachate Volume [mLs]	---	---	991	857	850	861
pH [no unit]	11-Nov-09	13:42	4.05	4.59	6.36	7.00
Alkalinity [mg/L as CaCO3]	11-Nov-09	13:42	< 2	< 2	< 2	5
Acidity [mg/L as CaCO3]	11-Nov-09	13:42	41	29	2	< 2
Conductivity [uS/cm]	11-Nov-09	13:42	334	179	16	19
Sulphate [mg/L]	17-Nov-09	13:35	150	80	3.2	1.7

Dianne Griffin
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Project : CALR-12074-002

Environmental Met
Attn : Barb Bowman

Thursday, November 19, 2009

Date Rec. : 17 November 2009
LR Report: **CA11128-NOV09**
Reference: Wk#23

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#23	6: Whole Tls Wk#23	7: Cyclone U/F-Untreated Wk#23	8: Cyclone U/F-Desulphidized Wk#23
Sample Date & Time			17-Nov-09	17-Nov-09	17-Nov-09	17-Nov-09
Hum Cell Leachate Volume [mLs]	---	---	984	881	908	894
pH [no unit]	19-Nov-09	09:40	4.10	4.63	6.64	7.05
Alkalinity [mg/L as CaCO3]	19-Nov-09	09:40	< 2	< 2	2	12
Acidity [mg/L as CaCO3]	19-Nov-09	09:40	42	34	< 2	< 2
Conductivity [uS/cm]	19-Nov-09	09:40	291	196	18	17
Sulphate [mg/L]	19-Nov-09	12:31	150	100	4.0	1.8

Dianne Griffin
Project Specialist

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Project : CALR-12074-002

Environmental Met
Attn : Barb Bowman

Tuesday, December 01, 2009

Date Rec. : 24 November 2009
LR Report: **CA11149-NOV09**
Reference: Wk#24

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#24	6: Whole Tls Wk#24	7: Cyclone U/F-Untreated Wk#24	8: Cyclone U/F-Desulphidized Wk#24
Sample Date & Time			24-Nov-09	24-Nov-09	24-Nov-09	24-Nov-09
Hum Cell Leachate Volume [mLs]	---	---	992	868	865	883
pH [no unit]	25-Nov-09	12:11	3.96	4.49	6.35	6.96
Alkalinity [mg/L as CaCO3]	25-Nov-09	12:11	< 2	< 2	< 2	5
Acidity [mg/L as CaCO3]	25-Nov-09	12:11	50	34	2	< 2
Conductivity [uS/cm]	25-Nov-09	12:11	332	197	18	19
Sulphate [mg/L]	27-Nov-09	11:42	140	82	3.9	1.8

Dianne Griffin
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Project : CALR-12074-002

Environmental Met
Attn : Barb Bowman

Thursday, December 10, 2009

Date Rec. : 01 December 2009
LR Report: **CA10007-DEC09**
Reference: Wk# 25

Copy: #2

CERTIFICATE OF ANALYSIS

Final Report - Revised

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 25	6: Whole Tls Wk# 25	7: Cyclone U/F-Untreated Wk# 25	8: Cyclone U/F-Desulphidized Wk# 25
Sample Date & Time			01-Dec-09	01-Dec-09	01-Dec-09	01-Dec-09
Hum Cell Leachate Volume [mLs]	---	---	980	907	903	890
pH [no unit]	02-Dec-09	13:50	3.90	4.59	6.41	6.98
Alkalinity [mg/L as CaCO3]	02-Dec-09	13:50	< 2	< 2	< 2	4
Acidity [mg/L as CaCO3]	02-Dec-09	13:50	57	42	< 2	< 2
Conductivity [uS/cm]	03-Dec-09	09:06	309	207	15	16
Sulphate [mg/L]	03-Dec-09	15:57	---	---	3.6	1.4
Sulphate [mg/L]	09-Dec-09	10:32	130	94	---	---
Mercury [mg/L]	02-Dec-09	13:17	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	02-Dec-09	16:14	0.00001	< 0.00001	0.00001	< 0.00001
Aluminum [mg/L]	02-Dec-09	16:14	5.63	5.13	< 0.01	0.02
Arsenic [mg/L]	02-Dec-09	16:14	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Barium [mg/L]	02-Dec-09	16:14	0.00218	0.00257	0.0977	0.135
Beryllium [mg/L]	02-Dec-09	16:14	0.00218	0.00227	0.00006	< 0.00002
Boron [mg/L]	02-Dec-09	16:14	0.0031	0.0024	0.0005	0.0003
Bismuth [mg/L]	02-Dec-09	16:14	0.00001	< 0.00001	0.00001	< 0.00001
Calcium [mg/L]	02-Dec-09	16:14	35.7	26.5	2.50	2.57
Cadmium [mg/L]	02-Dec-09	16:14	0.00287	0.00208	0.000175	0.000020
Cobalt [mg/L]	02-Dec-09	16:14	0.164	0.0799	0.00225	0.000249
Chromium [mg/L]	02-Dec-09	16:14	0.0056	< 0.0005	< 0.0005	< 0.0005
Copper [mg/L]	03-Dec-09	08:21	9.93	7.37	0.0679	0.0137
Iron [mg/L]	02-Dec-09	16:14	2.33	0.43	< 0.01	< 0.01
Potassium [mg/L]	02-Dec-09	16:14	2.03	1.80	0.30	0.47
Lithium [mg/L]	02-Dec-09	16:14	0.007	0.006	0.001	< 0.001
Magnesium [mg/L]	02-Dec-09	16:14	1.26	0.544	0.098	0.111
Manganese [mg/L]	02-Dec-09	16:14	1.03	0.374	0.0333	0.0127
Molybdenum [mg/L]	02-Dec-09	16:14	0.00009	< 0.00001	0.00236	0.00104
Sodium [mg/L]	02-Dec-09	16:14	0.10	0.16	0.07	0.01
Nickel [mg/L]	03-Dec-09	08:20	0.315	0.106	0.0010	0.0004
Lead [mg/L]	02-Dec-09	16:14	0.00021	0.00010	0.00002	0.00003

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Project : CALR-12074-002

LR Report : **CA10007-DEC09**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 25	6: Whole Tls Wk# 25	7: Cyclone U/F-Untreated Wk# 25	8: Cyclone U/F-Desulphidized Wk# 25
Antimony [mg/L]	02-Dec-09	16:14	< 0.0002	< 0.0002	0.0002	0.0003
Selenium [mg/L]	02-Dec-09	16:14	< 0.001	< 0.001	< 0.001	< 0.001
Silica [mg/L]	02-Dec-09	16:14	2.84	2.52	0.93	1.01
Tin [mg/L]	02-Dec-09	16:14	0.00066	0.00016	0.00128	0.00086
Strontium [mg/L]	02-Dec-09	16:14	0.0675	0.0507	0.0107	0.0159
Titanium [mg/L]	02-Dec-09	16:14	0.0002	0.0002	< 0.0001	0.0004
Thallium [mg/L]	02-Dec-09	16:14	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Uranium [mg/L]	02-Dec-09	16:14	0.000564	0.000356	0.000131	0.000026
Vanadium [mg/L]	02-Dec-09	16:14	< 0.00003	< 0.00003	< 0.00003	0.00027
Tungsten [mg/L]	02-Dec-09	16:14	< 0.00003	< 0.00003	0.00007	0.00032
Yttrium [mg/L]	02-Dec-09	16:14	0.00237	0.00135	0.000029	0.000009
Zinc [mg/L]	02-Dec-09	16:14	0.354	0.346	0.027	0.003

Revised sulphate results on samples 1st Cl Scav Tls and Whole Tls Dec. 10/09.

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Environmental Met
Attn : Barb Bowman

Friday, December 11, 2009

Date Rec. : 08 December 2009
LR Report: **CA10032-DEC09**
Reference: Wk#26

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 26	6: Whole Tls Wk# 26	7: Cyclone U/F-Untreated Wk# 26	8: Cyclone U/F-Desulphidized Wk# 26
Sample Date & Time			08-Dec-09	08-Dec-09	08-Dec-09	08-Dec-09
Hum Cell Leachate Volume [mLs]	---	---	987	874	857	848
pH [no unit]	09-Dec-09	11:15	3.82	4.96	6.23	6.91
Alkalinity [mg/L as CaCO3]	09-Dec-09	11:15	< 2	< 2	< 2	4
Acidity [mg/L as CaCO3]	09-Dec-09	11:15	75	38	2	< 2
Conductivity [uS/cm]	09-Dec-09	11:15	386	183	16	17
Sulphate [mg/L]	11-Dec-09	13:41	160	75	3.1	1.5

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Environmental Met
Attn : Barb Bowman

Friday, December 18, 2009

Date Rec. : 15 December 2009
LR Report: **CA10057-DEC09**
Reference: Wk# 27

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 27	6: Whole Tls Wk# 27	7: Cyclone U/F-Untreated Wk# 27	8: Cyclone U/F-Desulphidized Wk# 27
Sample Date & Time			15-Dec-09	15-Dec-09	15-Dec-09	15-Dec-09
Hum Cell Leachate Volume [mLs]	---	---	993	874	914	873
pH [no unit]	17-Dec-09	11:29	3.74	4.39	6.38	6.87
Alkalinity [mg/L as CaCO3]	17-Dec-09	11:29	< 2	< 2	< 2	4
Acidity [mg/L as CaCO3]	17-Dec-09	11:29	82	43	3	< 2
Conductivity [uS/cm]	17-Dec-09	11:29	400	199	17	16
Sulphate [mg/L]	18-Dec-09	12:56	160	79	3.6	1.4

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Environmental Met
Attn : Barb Bowman

Thursday, December 24, 2009

Date Rec. : 22 December 2009
LR Report: **CA11205-DEC09**
Reference: Wk# 28

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 28	6: Whole Tls Wk# 28	7: Cyclone U/F-Untreated Wk# 28	8: Cyclone U/F-Desulphidized Wk# 28
Sample Date & Time			22-Dec-09	22-Dec-09	22-Dec-09	22-Dec-09
Hum Cell Leachate Volume [mLs]	---	---	989	891	878	902
pH [no unit]	24-Dec-09	09:36	3.76	4.45	6.33	6.83
Alkalinity [mg/L as CaCO3]	24-Dec-09	09:36	< 2	< 2	< 2	4
Acidity [mg/L as CaCO3]	24-Dec-09	09:36	91	51	< 2	< 2
Conductivity [uS/cm]	24-Dec-09	09:36	374	205	16	14
Sulphate [mg/L]	24-Dec-09	10:39	240	170	3.5	1.5

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Environmental Met
Attn : Barb Bowman

Monday, January 11, 2010

Date Rec. : 05 January 2010
LR Report: **CA10845-JAN10**

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 28	6: Whole Tls Wk# 28
Sample Date & Time			22-Dec-09	22-Dec-09
Conductivity [uS/cm]	07-Jan-10	10:15	375	218
Sulphate [mg/L]	07-Jan-10	10:15	160	93

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Environmental Met
Attn : Barb Bowman

Wednesday, January 06, 2010

Date Rec. : 29 December 2009
LR Report: **CA11238-DEC09**
Reference: Wk# 29

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 29	6: Whole Tls Wk# 29	7: Cyclone U/F-Untreated Wk# 29	8: Cyclone U/F-Desulphidized Wk# 29
Sample Date & Time			29-Dec-09	29-Dec-09	29-Dec-09	29-Dec-09
Hum Cell Leachate Volume [mLs]	---	---	994	849	994	850
pH [no unit]	30-Dec-09	14:33	3.64	4.34	6.45	6.92
Alkalinity [mg/L as CaCO3]	30-Dec-09	14:33	< 2	< 2	< 2	4
Acidity [mg/L as CaCO3]	30-Dec-09	14:33	103	49	< 2	< 2
Conductivity [uS/cm]	30-Dec-09	14:33	448	203	18	15
Sulphate [mg/L]	05-Jan-10	15:30	170	150	3.4	1.3

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Environmental Met
Attn : Bar Bowman

Tuesday, January 19, 2010

Date Rec. : 12 January 2010
LR Report: **CA10934-JAN10**
Reference: Wk# 29

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Whole Tls Wk# 29
Sample Date & Time			29-Dec-09
Sulphate [mg/L]	15-Jan-10	11:59	83

Dianne Griffin
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Project : CALR-12074-002

Environmental Met
Attn : Barb Bowman

Tuesday, January 12, 2010

Date Rec. : 05 January 2010
LR Report: **CA10008-JAN10**
Reference: Wk#30

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#30	6: Whole Tls Wk#30	7: Cyclone U/F-Untreated Wk#30	8: Cyclone U/F-Desulphidized Wk#30
Sample Date & Time			05-Jan-10	05-Jan-10	05-Jan-10	05-Jan-10
Hum Cell Leachate Volume [mLs]	---	---	997	838	849	845
pH [no unit]	06-Jan-10	11:01	3.70	4.45	6.35	7.00
Alkalinity [mg/L as CaCO3]	06-Jan-10	11:01	< 2	< 2	2	6
Acidity [mg/L as CaCO3]	06-Jan-10	11:01	97	48	3	< 2
Conductivity [uS/cm]	06-Jan-10	11:01	368	174	16	14
Sulphate [mg/L]	07-Jan-10	15:41	170	76	3.8	1.5
Mercury [mg/L]	06-Jan-10	15:37	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	08-Jan-10	11:42	0.00003	0.00001	< 0.00001	< 0.00001
Aluminum [mg/L]	06-Jan-10	15:20	9.33	5.87	< 0.01	0.02
Arsenic [mg/L]	08-Jan-10	11:42	0.0004	0.0003	< 0.0002	< 0.0002
Barium [mg/L]	08-Jan-10	11:42	0.00342	0.00202	0.113	0.173
Beryllium [mg/L]	08-Jan-10	11:42	0.00325	0.00222	0.00009	< 0.00002
Boron [mg/L]	08-Jan-10	11:42	0.0141	0.0046	0.0018	0.0012
Bismuth [mg/L]	08-Jan-10	11:42	< 0.00001	0.00001	< 0.00001	< 0.00001
Calcium [mg/L]	06-Jan-10	15:20	32.1	18.0	2.11	2.09
Cadmium [mg/L]	08-Jan-10	11:42	0.00399	0.00160	0.000270	0.000015
Cobalt [mg/L]	08-Jan-10	11:42	0.174	0.0587	0.00323	0.000514
Chromium [mg/L]	08-Jan-10	11:42	0.0126	0.0007	< 0.0005	< 0.0005
Copper [mg/L]	08-Jan-10	11:42	21.8	9.82	0.198	0.0045
Iron [mg/L]	06-Jan-10	15:20	3.37	0.37	< 0.01	< 0.01
Potassium [mg/L]	06-Jan-10	15:20	1.94	1.19	0.28	0.48
Lithium [mg/L]	08-Jan-10	11:54	0.006	0.003	< 0.001	< 0.001
Magnesium [mg/L]	06-Jan-10	15:20	1.09	0.367	0.082	0.097
Manganese [mg/L]	08-Jan-10	11:54	0.677	0.218	0.0341	0.0174
Molybdenum [mg/L]	08-Jan-10	11:54	0.00118	0.00029	0.00160	0.00121
Sodium [mg/L]	06-Jan-10	15:20	0.08	0.04	< 0.01	< 0.01
Nickel [mg/L]	08-Jan-10	11:54	0.362	0.0978	0.0033	0.0007
Lead [mg/L]	08-Jan-10	11:54	0.00090	0.00043	0.00022	0.00004
Antimony [mg/L]	08-Jan-10	11:54	< 0.0002	< 0.0002	< 0.0002	0.0002

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Project : CALR-12074-002

LR Report : **CA10008-JAN10**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#30	6: Whole Tls Wk#30	7: Cyclone U/F-Untreated Wk#30	8: Cyclone U/F-Desulphidized Wk#30
Selenium [mg/L]	08-Jan-10	11:54	< 0.001	0.001	< 0.001	< 0.001
Silica [mg/L]	06-Jan-10	15:20	3.83	2.00	0.91	1.01
Tin [mg/L]	08-Jan-10	11:54	0.00075	0.00011	0.00151	0.00092
Strontium [mg/L]	06-Jan-10	15:20	0.0510	0.0282	0.0087	0.0134
Titanium [mg/L]	08-Jan-10	11:54	0.0003	0.0002	< 0.0001	0.0006
Thallium [mg/L]	08-Jan-10	11:54	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Uranium [mg/L]	08-Jan-10	11:54	0.00103	0.000415	0.000008	0.000024
Vanadium [mg/L]	08-Jan-10	11:54	< 0.00003	< 0.00003	< 0.00003	0.00019
Tungsten [mg/L]	08-Jan-10	11:54	0.00005	< 0.00003	< 0.00003	0.00020
Yttrium [mg/L]	08-Jan-10	11:54	0.00552	0.00171	0.000026	0.000011
Zinc [mg/L]	08-Jan-10	11:54	0.467	0.268	0.055	0.005

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Environmental Met
Attn : Barb Bowman

Thursday, January 14, 2010

Date Rec. : 12 January 2010
LR Report: **CA10032-JAN10**
Reference: Wk#31

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#31	6: Whole Tls Wk#31	7: Cyclone U/F-Untreated Wk#31	8: Cyclone U/F-Desulphidized Wk#31
Sample Date & Time			12-Jan-10	12-Jan-10	12-Jan-10	12-Jan-10
Hum Cell Leachate Volume [mLs]	---	---	998	868	1000	954
pH [no unit]	14-Jan-10	08:20	3.60	4.25	6.30	6.76
Alkalinity [mg/L as CaCO3]	14-Jan-10	08:20	< 2	< 2	< 2	4
Acidity [mg/L as CaCO3]	14-Jan-10	08:20	125	53	< 2	< 2
Conductivity [uS/cm]	14-Jan-10	08:20	491	207	19	16
Sulphate [mg/L]	13-Jan-10	15:53	200	83	3.9	1.5

Dianne Griffin
Project Specialist

OnLine LIMS

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Phone: 705-652-2000 FAX: 705-652-6365

Project : CALR-12074-002

Environmental Met
Attn : Barb Bowman

Tuesday, January 26, 2010

Date Rec. : 19 January 2010
LR Report: **CA10058-JAN10**
Reference: Wk#32

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#32	6: Whole Tls Wk#32	7: Cyclone U/F-Untreated Wk#32	8: Cyclone U/F-Desulphidized Wk#32
Sample Date & Time			19-Jan-10	19-Jan-10	19-Jan-10	19-Jan-10
Hum Cell Leachate Volume [mLs]	---	---	991	883	977	893
pH [no unit]	20-Jan-10	11:30	3.71	4.31	6.17	6.69
Alkalinity [mg/L as CaCO3]	20-Jan-10	11:30	< 2	< 2	< 2	3
Acidity [mg/L as CaCO3]	20-Jan-10	11:30	111	52	< 2	< 2
Conductivity [uS/cm]	20-Jan-10	11:30	415	199	18	14
Sulphate [mg/L]	25-Jan-10	13:16	160	78	3.6	1.3

Dianne Griffin
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Project : CALR-12074-002

Environmental Met
Attn : Barb Bowman

Friday, February 05, 2010

Date Rec. : 26 January 2010
LR Report: **CA10085-JAN10**
Reference: Wk#33

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#33	6: Whole Tls Wk#33	7: Cyclone U/F-Untreated Wk#33	8: Cyclone U/F-Desulphidized Wk#33
Sample Date & Time			26-Jan-10	26-Jan-10	26-Jan-10	26-Jan-10
Hum Cell Leachate Volume [mLs]	---	---	979	948	931	944
pH [no unit]	27-Jan-10	14:04	3.70	4.27	6.28	6.83
Alkalinity [mg/L as CaCO3]	27-Jan-10	14:04	< 2	< 2	< 2	4
Acidity [mg/L as CaCO3]	27-Jan-10	14:04	118	75	<2	< 2
Conductivity [uS/cm]	27-Jan-10	14:04	445	279	18	15
Sulphate [mg/L]	02-Feb-10	17:57	170	120	3.4	1.3

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Project : CALR-12074-002

Environmental Met
Attn : Barb Bowman

Wednesday, February 10, 2010

Date Rec. : 02 February 2010
LR Report: **CA10008-FEB10**
Reference: Wk#34

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#34	6: Whole Tls Wk#34	7: Cyclone U/F-Untreated Wk#34	8: Cyclone U/F-Desulphidized Wk#34
Sample Date & Time			02-Feb-09	02-Feb-09	02-Feb-09	02-Feb-09
Hum Cell Leachate Volume [mLs]	---	---	992	867	993	945
pH [no unit]	03-Feb-10	12:30	3.66	4.88	6.61	7.04
Alkalinity [mg/L as CaCO3]	03-Feb-10	12:30	< 2	< 2	3	4
Acidity [mg/L as CaCO3]	03-Feb-10	12:30	122	38	< 2	< 2
Conductivity [uS/cm]	03-Feb-10	12:30	460	180	21	15
Sulphate [mg/L]	09-Feb-10	16:45	190	74	4.0	1.4

Dianne Griffin
Project Specialist

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Project : CALR-12074-002

Environmental Met
Attn : Barb Bowman

Tuesday, February 16, 2010

Date Rec. : 09 February 2010
LR Report: **CA10033-FEB10**
Reference: Wk#35

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#35	6: Whole Tls Wk#35	7: Cyclone U/F-Untreated Wk#35	8: Cyclone U/F-Desulphidized Wk#35
Sample Date & Time			09-Feb-10	09-Feb-10	09-Feb-10	09-Feb-10
Hum Cell Leachate Volume [mLs]	---	---	989	869	862	880
pH [no unit]	10-Feb-10	12:28	3.67	4.46	6.12	6.70
Alkalinity [mg/L as CaCO3]	10-Feb-10	12:28	< 2	< 2	< 2	3
Acidity [mg/L as CaCO3]	10-Feb-10	12:28	124	48	< 2	< 2
Conductivity [uS/cm]	10-Feb-10	12:28	468	188	18	14
Sulphate [mg/L]	12-Feb-10	08:18	180	70	3.8	1.2
Mercury [mg/L]	10-Feb-10	13:52	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	11-Feb-10	13:49	0.00002	< 0.00001	< 0.00001	< 0.00001
Aluminum [mg/L]	11-Feb-10	13:49	11.1	5.59	0.02	< 0.01
Arsenic [mg/L]	11-Feb-10	13:49	0.0003	< 0.0002	< 0.0002	< 0.0002
Barium [mg/L]	11-Feb-10	13:49	0.00170	0.00177	0.103	0.218
Beryllium [mg/L]	11-Feb-10	13:49	0.00409	0.00222	0.00015	< 0.00002
Boron [mg/L]	11-Feb-10	13:49	0.0015	0.0006	< 0.0002	< 0.0002
Bismuth [mg/L]	11-Feb-10	13:49	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Calcium [mg/L]	11-Feb-10	13:49	31.2	15.1	1.82	1.55
Cadmium [mg/L]	11-Feb-10	13:49	0.00344	0.000030	0.000424	0.000017
Cobalt [mg/L]	11-Feb-10	13:49	0.164	0.0448	0.00304	0.000490
Chromium [mg/L]	11-Feb-10	13:49	0.0247	0.0010	< 0.0005	< 0.0005
Copper [mg/L]	11-Feb-10	13:49	31.4	9.73	0.434	0.0088
Iron [mg/L]	11-Feb-10	13:49	4.40	0.51	< 0.01	< 0.01
Potassium [mg/L]	11-Feb-10	13:49	1.75	0.97	0.22	0.37
Lithium [mg/L]	11-Feb-10	13:49	0.005	0.002	< 0.001	< 0.001
Magnesium [mg/L]	11-Feb-10	13:49	1.07	0.287	0.066	0.073
Manganese [mg/L]	11-Feb-10	13:49	0.552	0.145	0.0285	0.0215
Molybdenum [mg/L]	11-Feb-10	13:49	0.00008	0.00001	0.00095	0.00085
Sodium [mg/L]	11-Feb-10	13:49	0.08	0.02	0.01	< 0.01
Nickel [mg/L]	11-Feb-10	13:49	0.402	0.0868	0.0029	0.0004
Lead [mg/L]	11-Feb-10	13:49	0.00016	0.00087	0.00009	0.00004
Antimony [mg/L]	11-Feb-10	13:49	< 0.0002	< 0.0002	< 0.0002	< 0.0002

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Project : CALR-12074-002

LR Report : **CA10033-FEB10**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#35	6: Whole Tls Wk#35	7: Cyclone U/F-Untreated Wk#35	8: Cyclone U/F-Desulphidized Wk#35
Selenium [mg/L]	11-Feb-10	13:49	< 0.001	0.001	< 0.001	< 0.001
Silica [mg/L]	11-Feb-10	13:49	4.30	1.90	0.67	0.77
Tin [mg/L]	11-Feb-10	13:49	0.00057	0.00015	0.00237	0.00134
Strontium [mg/L]	11-Feb-10	13:49	0.0420	0.0195	0.0065	0.0098
Titanium [mg/L]	11-Feb-10	13:49	0.0003	0.0001	< 0.0001	0.0002
Thallium [mg/L]	11-Feb-10	13:49	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Uranium [mg/L]	11-Feb-10	13:49	0.00136	0.000490	0.000003	0.000002
Vanadium [mg/L]	11-Feb-10	13:49	< 0.00003	< 0.00003	< 0.00003	0.00009
Tungsten [mg/L]	11-Feb-10	13:49	< 0.00003	< 0.00003	< 0.00003	0.00007
Yttrium [mg/L]	11-Feb-10	13:49	0.0121	0.00224	0.000004	< 0.000001
Zinc [mg/L]	11-Feb-10	13:49	0.468	0.206	0.082	0.007

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Environmental Met
Attn : Barb Bowman

Monday, March 08, 2010

Date Rec. : 03 March 2010
LR Report: **CA10851-MAR10**
Reference: Wk#35

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Whole Tls Wk#35
Sample Date & Time			09-Feb-10
Cadmium [mg/L]	08-Mar-10	11:34	0.000104

Dianne Griffin
Project Specialist

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Project : CALR-12074-002

Environmental Met
Attn : Barb Bowman

Friday, February 19, 2010

Date Rec. : 16 February 2010
LR Report: **CA10062-FEB10**
Reference: Wk#36

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#36	6: Whole Tls Wk#36	7: Cyclone U/F-Untreated Wk#36	8: Cyclone U/F-Desulphidized Wk#36
Sample Date & Time			16-Feb-10	16-Feb-10	16-Feb-10	16-Feb-10
Hum Cell Leachate Volume [mLs]	---	---	985	861	981	947
pH [no unit]	17-Feb-10	13:33	3.62	4.30	6.20	6.82
Alkalinity [mg/L as CaCO3]	17-Feb-10	13:33	< 2	< 2	< 2	3
Acidity [mg/L as CaCO3]	17-Feb-10	13:33	127	57	2	< 2
Conductivity [uS/cm]	17-Feb-10	13:33	465	203	20	14
Sulphate [mg/L]	19-Feb-10	10:15	180	80	4.1	1.3

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Environmental Met
Attn : Barb Bowman

Monday, March 01, 2010

Date Rec. : 23 February 2010
LR Report: **CA10088-FEB10**
Reference: Wk#37

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#37	6: Whole Tls Wk#37	7: Cyclone U/F-Untreated Wk#37	8: Cyclone U/F-Desulphidized Wk#37
Sample Date & Time			23-Feb-10	23-Feb-10	23-Feb-10	23-Feb-10
Hum Cell Leachate Volume [mLs]	---	---	991	952	984	946
pH [no unit]	25-Feb-10	07:55	3.55	4.04	6.08	6.49
Alkalinity [mg/L as CaCO3]	25-Feb-10	07:55	< 2	< 2	< 2	2
Acidity [mg/L as CaCO3]	25-Feb-10	07:55	138	81	3	< 2
Conductivity [uS/cm]	25-Feb-10	07:55	504	284	20	14
Sulphate [mg/L]	26-Feb-10	11:13	210	120	5.1	1.2

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Environmental Met
Attn : Barb Bowman

Thursday, March 04, 2010

Date Rec. : 02 March 2010
LR Report: **CA10008-MAR10**
Reference: Wk#38

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#38	6: Whole Tls Wk#38	7: Cyclone U/F-Untreated Wk#38	8: Cyclone U/F-Desulphidized Wk#38
Sample Date & Time			02-Mar-10	02-Mar-10	02-Mar-10	02-Mar-10
Hum Cell Leachate Volume [mLs]	---	---	992	986	991	996
pH [no unit]	03-Mar-10	09:08	3.20	3.77	5.87	6.45
Alkalinity [mg/L as CaCO3]	03-Mar-10	09:08	< 2	< 2	< 2	3
Acidity [mg/L as CaCO3]	03-Mar-10	09:08	145	81	3	< 2
Conductivity [uS/cm]	03-Mar-10	09:08	529	288	20	14
Sulphate [mg/L]	04-Mar-10	11:16	220	120	4.4	1.3

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Tuesday, March 16, 2010

Environmental Met
Attn : Barb Bowman

Date Rec. : 09 March 2010
LR Report: **CA10034-MAR10**
Reference: Wk#39

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#39	6: Whole Tls Wk#39	7: Cyclone U/F-Untreated Wk#39	8: Cyclone U/F-Desulphidized Wk#39
Sample Date & Time			09-Mar-10	09-Mar-10	09-Mar-10	09-Mar-10
Hum Cell Leachate Volume [mLs]	---	---	986	842	989	842
pH [no unit]	11-Mar-10	09:27	3.60	4.23	6.03	6.51
Alkalinity [mg/L as CaCO3]	11-Mar-10	09:27	< 2	< 2	< 2	< 2
Acidity [mg/L as CaCO3]	11-Mar-10	09:27	151	57	5	2
Conductivity [uS/cm]	11-Mar-10	09:27	530	180	20	13
Sulphate [mg/L]	11-Mar-10	22:18	210	64	5.3	1.3

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Wednesday, March 31, 2010

Environmental Met
Attn : Barb Bowman

Date Rec. : 16 March 2010
LR Report: **CA10060-MAR10**
Reference: Wk#40

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#40	6: Whole Tls Wk#40	7: Cyclone U/F-Untreated Wk#40	8: Cyclone U/F-Desulphidized Wk#40
Sample Date & Time			16-Mar-10	16-Mar-10	16-Mar-10	16-Mar-10
Hum Cell Leachate Volume [mLs]	---	---	992	844	991	821
pH [no unit]	18-Mar-10	08:16	3.40	4.10	6.15	6.52
Alkalinity [mg/L as CaCO3]	18-Mar-10	08:16	< 2	< 2	< 2	< 2
Acidity [mg/L as CaCO3]	18-Mar-10	08:16	162	53	3	< 2
Conductivity [uS/cm]	18-Mar-10	08:16	629	195	21	13
Sulphate [mg/L]	18-Mar-10	15:37	250	72	5.2	1.3
Mercury [mg/L]	18-Mar-10	13:31	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	24-Mar-10	07:47	0.00004	< 0.00001	< 0.00001	< 0.00001
Aluminum [mg/L]	18-Mar-10	13:58	10.8	5.62	0.07	0.01
Arsenic [mg/L]	24-Mar-10	07:47	0.0004	< 0.0002	0.0002	< 0.0002
Barium [mg/L]	24-Mar-10	07:47	0.00250	0.00334	0.115	0.257
Beryllium [mg/L]	24-Mar-10	07:47	0.00404	0.00208	0.00031	< 0.00002
Boron [mg/L]	24-Mar-10	07:47	0.0021	0.0007	0.0003	0.0003
Bismuth [mg/L]	24-Mar-10	07:47	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Calcium [mg/L]	18-Mar-10	13:58	39.0	14.6	2.17	1.63
Cadmium [mg/L]	24-Mar-10	07:47	0.00281	0.000939	0.000653	0.000036
Cobalt [mg/L]	24-Mar-10	07:47	0.142	0.0367	0.00348	0.000756
Chromium [mg/L]	24-Mar-10	07:47	0.0475	0.0018	< 0.0005	< 0.0005
Copper [mg/L]	24-Mar-10	07:47	40.5	9.44	0.859	0.0115
Iron [mg/L]	18-Mar-10	13:58	8.97	0.67	< 0.01	< 0.01
Potassium [mg/L]	18-Mar-10	13:58	2.23	0.97	0.29	0.44
Lithium [mg/L]	24-Mar-10	07:47	< 0.001	< 0.001	< 0.001	< 0.001
Magnesium [mg/L]	18-Mar-10	13:58	1.31	0.282	0.065	0.072
Manganese [mg/L]	24-Mar-10	07:47	0.509	0.109	0.0262	0.0243
Molybdenum [mg/L]	24-Mar-10	07:47	0.00006	0.00001	0.00078	0.00084
Sodium [mg/L]	18-Mar-10	13:58	0.10	< 0.01	< 0.01	< 0.01
Nickel [mg/L]	24-Mar-10	07:47	0.358	0.0732	0.0038	0.0007
Lead [mg/L]	24-Mar-10	07:47	0.00026	0.00009	0.00040	0.00025

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Project : CALR-12074-002

LR Report : **CA10060-MAR10**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#40	6: Whole Tls Wk#40	7: Cyclone U/F-Untreated Wk#40	8: Cyclone U/F-Desulphidized Wk#40
Antimony [mg/L]	24-Mar-10	07:47	< 0.0002	< 0.0002	< 0.0002	0.0002
Selenium [mg/L]	24-Mar-10	07:47	0.001	< 0.001	< 0.001	< 0.001
Silica [mg/L]	18-Mar-10	13:58	6.77	2.25	0.85	0.92
Tin [mg/L]	24-Mar-10	07:47	0.00053	0.00011	0.00335	0.00171
Strontium [mg/L]	18-Mar-10	13:58	0.0446	0.0176	0.0070	0.0106
Titanium [mg/L]	24-Mar-10	07:47	0.0004	0.0001	< 0.0001	0.0002
Thallium [mg/L]	24-Mar-10	07:47	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Uranium [mg/L]	24-Mar-10	07:47	0.00151	0.000535	0.000006	0.000001
Vanadium [mg/L]	24-Mar-10	07:47	< 0.00003	< 0.00003	< 0.00003	0.00009
Tungsten [mg/L]	24-Mar-10	07:47	< 0.00003	< 0.00003	< 0.00003	0.00005
Yttrium [mg/L]	24-Mar-10	07:47	0.0196	0.00314	0.000021	0.000005
Zinc [mg/L]	24-Mar-10	07:47	0.455	0.181	0.109	0.008

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Monday, April 05, 2010

Environmental Met
Attn : Barb Bowman

Date Rec. : 23 March 2010
LR Report: **CA10085-MAR10**
Reference: Wk# 41

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 41	6: Whole Tls Wk# 41	7: Cyclone U/F-Untreated Wk# 41	8: Cyclone U/F-Desulphidized Wk# 41
Sample Date & Time			23-Mar-10	23-Mar-10	23-Mar-10	23-Mar-10
Hum Cell Leachate Volume [mLs]	---	---	992	850	930	873
pH [no unit]	25-Mar-10	13:29	3.44	4.22	5.93	6.47
Alkalinity [mg/L as CaCO3]	25-Mar-10	13:29	< 2	< 2	< 2	2
Acidity [mg/L as CaCO3]	25-Mar-10	13:29	129	49	3	< 2
Conductivity [uS/cm]	25-Mar-10	13:29	497	179	19	12
Sulphate [mg/L]	01-Apr-10	09:32	200	72	4.5	1.2

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Wednesday, April 07, 2010

Environmental Met
Attn : Barb Bowman

Date Rec. : 30 March 2010
LR Report: **CA10129-MAR10**
Reference: Wk#42

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#42	6: Whole Tls Wk#42	7: Cyclone U/F-Untreated Wk#42	8: Cyclone U/F-Desulphidized Wk#42
Sample Date & Time			30-Mar-10	30-Mar-10	30-Mar-10	30-Mar-10
Hum Cell Leachate Volume [mLs]	---	---	995	959	998	964
pH [no unit]	01-Apr-10	13:40	3.51	3.99	5.94	6.52
Alkalinity [mg/L as CaCO3]	01-Apr-10	13:40	< 2	< 2	< 2	< 2
Acidity [mg/L as CaCO3]	01-Apr-10	13:40	135	75	4	< 2
Conductivity [uS/cm]	01-Apr-10	13:40	534	258	19	12
Sulphate [mg/L]	06-Apr-10	12:56	200	94	4.0	1.1

Dianne Griffin
Project Specialist

OnLine LIMS

SGS Canada Inc.
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Project : CALR-12074-002

Thursday, April 08, 2010

Environmental Met
Attn : Barb Bowman

Date Rec. : 06 April 2010
LR Report: **CA10008-APR10**
Reference: Wk#43

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#43	6: Whole Tls Wk#43	7: Cyclone U/F-Untreated Wk#43	8: Cyclone U/F-Desulphidized Wk#43
Sample Date & Time			06-Apr-10	06-Apr-10	06-Apr-10	06-Apr-10
Hum Cell Leachate Volume [mLs]	---	---	990	927	982	911
pH [no unit]	08-Apr-10	08:20	3.49	3.97	5.93	6.48
Alkalinity [mg/L as CaCO3]	08-Apr-10	08:20	< 2	< 2	< 2	< 2
Acidity [mg/L as CaCO3]	08-Apr-10	08:20	123	61	4	< 2
Conductivity [uS/cm]	08-Apr-10	08:20	513	226	19	12
Sulphate [mg/L]	07-Apr-10	19:20	210	91	4.5	1.2

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Wednesday, April 21, 2010

Environmental Met
Attn : Barb Bowman

Date Rec. : 13 April 2010
LR Report: **CA10035-APR10**
Reference: Wk#44

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 44	6: Whole Tls Wk# 44	7: Cyclone U/F-Untreated Wk# 44	8: Cyclone U/F-Desulphidized Wk# 44
Sample Date & Time			13-Apr-10	13-Apr-10	13-Apr-10	13-Apr-10
Hum Cell Leachate Volume [mLs]	---	---	991	824	849	821
pH [no unit]	15-Apr-10	08:26	3.47	4.07	5.70	6.36
Alkalinity [mg/L as CaCO3]	15-Apr-10	08:26	< 2	< 2	< 2	< 2
Acidity [mg/L as CaCO3]	15-Apr-10	08:26	126	46	5	< 2
Conductivity [uS/cm]	15-Apr-10	08:26	550	185	20	12
Sulphate [mg/L]	20-Apr-10	17:10	210	67	4.5	1.2

Dianne Griffin
Project Specialist

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Project : CALR-12074-002

Monday, April 26, 2010

Environmental Met
Attn : Barb Bowman

Date Rec. : 20 April 2010
LR Report: **CA11077-APR10**
Reference: Wk#45

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#45	6: Whole Tls Wk#45	7: Cyclone U/F-Untreated Wk#45	8: Cyclone U/F-Desulphidized Wk#45
Sample Date & Time			20-Apr-10	20-Apr-10	20-Apr-10	20-Apr-10
Hum Cell Leachate Volume [mLs]	---	---	993	863	1003	852
pH [no unit]	22-Apr-10	08:41	3.39	3.94	6.04	6.58
Alkalinity [mg/L as CaCO3]	22-Apr-10	08:41	< 2	< 2	< 2	2
Acidity [mg/L as CaCO3]	22-Apr-10	08:41	130	50	3	< 2
Conductivity [uS/cm]	22-Apr-10	08:41	558	200	23	14
Sulphate [mg/L]	22-Apr-10	13:28	230	73	5.3	1.3
Mercury [mg/L]	22-Apr-10	08:30	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	23-Apr-10	08:05	0.00004	0.00001	< 0.00001	< 0.00001
Aluminum [mg/L]	26-Apr-10	07:55	7.86	5.74	0.12	0.01
Arsenic [mg/L]	23-Apr-10	08:05	0.0006	< 0.0002	< 0.0002	0.0006
Barium [mg/L]	23-Apr-10	08:05	0.00307	0.0128	0.0952	0.285
Beryllium [mg/L]	23-Apr-10	08:05	0.00260	0.00174	0.00034	0.00003
Boron [mg/L]	23-Apr-10	08:05	0.0015	0.0005	0.0002	0.0002
Bismuth [mg/L]	23-Apr-10	08:05	0.00002	< 0.00001	< 0.00001	< 0.00001
Calcium [mg/L]	26-Apr-10	07:55	35.6	14.1	2.27	1.65
Cadmium [mg/L]	23-Apr-10	08:05	0.00166	0.00188	0.000773	0.000046
Cobalt [mg/L]	23-Apr-10	08:05	0.0991	0.0332	0.00365	0.00108
Chromium [mg/L]	23-Apr-10	08:05	0.0746	0.0041	< 0.0005	< 0.0005
Copper [mg/L]	23-Apr-10	08:05	41.4	10.9	1.36	0.0125
Iron [mg/L]	26-Apr-10	07:55	10.9	0.90	< 0.01	< 0.01
Potassium [mg/L]	26-Apr-10	07:55	1.80	1.02	0.28	0.42
Lithium [mg/L]	23-Apr-10	08:05	0.002	0.001	< 0.001	< 0.001
Magnesium [mg/L]	26-Apr-10	07:55	1.36	0.329	0.054	0.068
Manganese [mg/L]	23-Apr-10	08:05	0.367	0.103	0.0228	0.0244
Molybdenum [mg/L]	23-Apr-10	08:05	0.00011	0.00002	0.00073	0.00074
Sodium [mg/L]	26-Apr-10	07:55	0.12	0.04	< 0.01	< 0.01
Nickel [mg/L]	23-Apr-10	08:05	0.311	0.0725	0.0049	0.0012
Lead [mg/L]	23-Apr-10	08:05	0.00027	0.00427	0.00010	0.00005

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Project : CALR-12074-002

LR Report : **CA11077-APR10**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#45	6: Whole Tls Wk#45	7: Cyclone U/F-Untreated Wk#45	8: Cyclone U/F-Desulphidized Wk#45
Antimony [mg/L]	23-Apr-10	08:05	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Selenium [mg/L]	23-Apr-10	08:05	0.001	< 0.001	< 0.001	< 0.001
Silica [mg/L]	26-Apr-10	07:55	6.66	2.60	0.78	0.83
Tin [mg/L]	23-Apr-10	08:05	0.00041	0.00014	0.00197	0.00131
Strontium [mg/L]	26-Apr-10	07:55	0.0336	0.0158	0.0057	0.0103
Titanium [mg/L]	23-Apr-10	08:05	0.0003	0.0001	< 0.0001	< 0.0001
Thallium [mg/L]	23-Apr-10	08:05	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Uranium [mg/L]	23-Apr-10	08:05	0.00118	0.000525	0.000011	0.000002
Vanadium [mg/L]	23-Apr-10	08:05	0.00009	< 0.00003	< 0.00003	0.00004
Tungsten [mg/L]	23-Apr-10	08:05	< 0.00003	< 0.00003	< 0.00003	< 0.00003
Yttrium [mg/L]	23-Apr-10	08:05	0.0240	0.00400	0.000077	0.000020
Zinc [mg/L]	23-Apr-10	08:05	0.350	0.181	0.108	0.010

Dianne Griffin
Project Specialist

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Project : CALR-12074-002

Tuesday, May 04, 2010

Environmental Met
Attn : Barb Bowman

Date Rec. : 27 April 2010
LR Report: **CA11101-APR10**
Reference: Wk#46

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#46	6: Whole Tls Wk#46	7: Cyclone U/F-Untreated Wk#46	8: Cyclone U/F-Desulphidized Wk#46
Sample Date & Time			27-Apr-10	27-Apr-10	27-Apr-10	27-Apr-10
Hum Cell Leachate Volume [mLs]	---	---	989	835	979	868
pH [no unit]	29-Apr-10	08:28	3.36	3.94	6.06	6.51
Alkalinity [mg/L as CaCO3]	29-Apr-10	08:28	< 2	< 2	< 2	< 2
Acidity [mg/L as CaCO3]	29-Apr-10	08:28	140	51	5	< 2
Conductivity [uS/cm]	29-Apr-10	08:28	518	174	20	12
Sulphate [mg/L]	04-May-10	09:34	220	64	6.1	1.5

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Monday, May 10, 2010

Environmental Met
Attn : Barb Bowman

Date Rec. : 04 May 2010
LR Report: **CA10008-MAY10**
Reference: Wk# 47

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 47	6: Whole Tls Wk# 47	7: Cyclone U/F-Untreated Wk# 47	8: Cyclone U/F-Desulphidized Wk# 47
Sample Date & Time			04-May-10	04-May-10	04-May-10	04-May-10
Hum Cell Leachate Volume [mLs]	---	---	980	904	928	909
pH [no unit]	06-May-10	13:58	3.41	3.81	5.95	6.75
Alkalinity [mg/L as CaCO3]	06-May-10	13:58	< 2	< 2	< 2	3
Acidity [mg/L as CaCO3]	06-May-10	13:58	135	65	5	< 2
Conductivity [uS/cm]	06-May-10	13:58	591	258	25	19
Sulphate [mg/L]	07-May-10	17:42	220	89	6.7	1.3

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Monday, May 17, 2010

Environmental Met
Attn : Barb Bowman

Date Rec. : 11 May 2010
LR Report: **CA10034-MAY10**
Reference: Wk# 48

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 48	6: Whole Tls Wk# 48	7: Cyclone U/F-Untreated Wk# 48	8: Cyclone U/F-Desulphidized Wk# 48
Sample Date & Time			11-May-10	11-May-10	11-May-10	11-May-10
Hum Cell Leachate Volume [mLs]	---	---	991	915	883	885
pH [no unit]	13-May-10	09:43	3.49	3.85	6.05	6.53
Alkalinity [mg/L as CaCO3]	13-May-10	09:43	< 2	< 2	< 2	< 2
Acidity [mg/L as CaCO3]	13-May-10	09:43	118	54	3	< 2
Conductivity [uS/cm]	13-May-10	09:43	524	219	19	12
Sulphate [mg/L]	17-May-10	13:02	190	73	3.6	1.0

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Wednesday, May 26, 2010

Environmental Met
Attn : Barb Bowman

Date Rec. : 18 May 2010
LR Report: **CA10059-MAY10**
Reference: Wk#49

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#49	6: Whole Tls Wk#49	7: Cyclone U/F-Untreated Wk#49	8: Cyclone U/F-Desulphidized Wk#49
Sample Date & Time			18-May-10	18-May-10	18-May-10	18-May-10
Hum Cell Leachate Volume [mLs]	---	---	986	873	880	837
pH [no unit]	20-May-10	11:07	3.43	3.86	5.92	6.49
Alkalinity [mg/L as CaCO3]	20-May-10	11:07	< 2	< 2	< 2	< 2
Acidity [mg/L as CaCO3]	20-May-10	11:07	118	53	4	< 2
Conductivity [uS/cm]	20-May-10	11:07	523	211	17	13
Sulphate [mg/L]	25-May-10	17:32	180	69	3.8	1.2

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Wednesday, June 02, 2010

Environmental Met
Attn : Barb Bowman

Date Rec. : 25 May 2010
LR Report: **CA10084-MAY10**
Reference: Wk#50

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 50	6: Whole Tls Wk# 50	7: Cyclone U/F-Untreated Wk# 50	8: Cyclone U/F-Desulphidized Wk# 50
Sample Date & Time			25-May-10	25-May-10	25-May-10	25-May-10
Hum Cell Leachate Volume [mLs]	---	---	992	946	884	875
pH [no unit]	28-May-10	16:28	3.44	3.80	6.07	6.35
Alkalinity [mg/L as CaCO3]	28-May-10	16:28	< 2	< 2	< 2	< 2
Acidity [mg/L as CaCO3]	28-May-10	16:28	126	65	3	< 2
Conductivity [uS/cm]	28-May-10	16:28	560	260	19	13
Sulphate [mg/L]	28-May-10	16:28	210	86	3.9	1.0
Mercury [mg/L]	27-May-10	13:30	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	01-Jun-10	13:47	0.00003	0.00002	< 0.00001	< 0.00001
Aluminum [mg/L]	31-May-10	12:51	7.42	7.40	0.10	< 0.01
Arsenic [mg/L]	01-Jun-10	13:47	0.0003	0.0002	< 0.0002	< 0.0002
Barium [mg/L]	01-Jun-10	13:47	0.00130	0.00237	0.0620	0.331
Beryllium [mg/L]	01-Jun-10	13:47	0.00227	0.00193	0.00023	0.00003
Boron [mg/L]	01-Jun-10	13:47	0.0011	0.0005	< 0.0002	< 0.0002
Bismuth [mg/L]	01-Jun-10	13:47	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Calcium [mg/L]	31-May-10	12:51	33.8	16.2	1.67	1.54
Cadmium [mg/L]	01-Jun-10	13:47	0.00128	0.000812	0.000503	0.000063
Cobalt [mg/L]	01-Jun-10	13:47	0.0847	0.0370	0.00213	0.00127
Chromium [mg/L]	01-Jun-10	13:47	0.115	0.0121	< 0.0005	< 0.0005
Copper [mg/L]	01-Jun-10	13:47	41.1	15.4	1.23	0.0253
Iron [mg/L]	31-May-10	12:51	10.5	1.11	< 0.002	< 0.002
Potassium [mg/L]	31-May-10	12:51	1.28	1.08	0.175	0.333
Lithium [mg/L]	01-Jun-10	13:47	0.002	0.001	< 0.001	< 0.001
Magnesium [mg/L]	31-May-10	12:51	1.51	0.510	0.030	0.055
Manganese [mg/L]	01-Jun-10	13:47	0.281	0.109	0.0120	0.0234
Molybdenum [mg/L]	01-Jun-10	13:47	0.00001	< 0.00001	0.00047	0.00056
Sodium [mg/L]	31-May-10	12:51	0.14	0.08	0.01	0.02
Nickel [mg/L]	01-Jun-10	13:47	0.237	0.0742	0.0029	0.0014
Lead [mg/L]	01-Jun-10	13:47	0.00064	0.00028	0.00050	< 0.00002
Antimony [mg/L]	01-Jun-10	13:47	0.0002	< 0.0002	0.0002	< 0.0002
Selenium [mg/L]	01-Jun-10	13:47	< 0.001	< 0.001	< 0.001	< 0.001
Silica [mg/L]	31-May-10	12:51	6.92	3.98	0.48	0.65
Tin [mg/L]	01-Jun-10	13:47	0.00031	0.00035	0.00137	0.00125

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Project : CALR-12074-002

LR Report : **CA10084-MAY10**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 50	6: Whole Tls Wk# 50	7: Cyclone U/F-Untreated Wk# 50	8: Cyclone U/F-Desulphidized Wk# 50
Strontium [mg/L]	31-May-10	12:51	0.0269	0.0139	0.0030	0.0085
Titanium [mg/L]	01-Jun-10	13:47	0.0003	0.0002	< 0.0001	< 0.0001
Thallium [mg/L]	01-Jun-10	13:47	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Uranium [mg/L]	01-Jun-10	13:47	0.000974	0.000496	0.000005	0.000002
Vanadium [mg/L]	01-Jun-10	13:47	0.00018	< 0.00003	< 0.00003	< 0.00003
Tungsten [mg/L]	01-Jun-10	13:47	< 0.00003	< 0.00003	< 0.00003	< 0.00003
Yttrium [mg/L]	01-Jun-10	13:47	0.0333	0.00931	0.000028	0.000015
Zinc [mg/L]	01-Jun-10	13:47	0.261	0.176	0.072	0.013

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Friday, June 11, 2010

Environmental Met
Attn : Barb Bowman

Date Rec. : 01 June 2010
LR Report: **CA10008-JUN10**
Reference: Wk#51

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#51	6: Whole Tls Wk#51	7: Cyclone U/F-Untreated Wk#51	8: Cyclone U/F-Desulphidized Wk#51
Sample Date & Time			01-Jun-10	01-Jun-10	01-Jun-10	01-Jun-10
Hum Cell Leachate Volume [mLs]	---	---	988	870	845	869
pH [no unit]	07-Jun-10	08:50	3.41	3.83	5.86	6.23
Alkalinity [mg/L as CaCO3]	07-Jun-10	08:50	< 2	< 2	< 2	< 2
Acidity [mg/L as CaCO3]	07-Jun-10	08:50	131	59	4	< 2
Conductivity [uS/cm]	07-Jun-10	08:50	561	243	16	13
Sulphate [mg/L]	09-Jun-10	09:16	220	84	6.7	1.5

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Tuesday, June 15, 2010

Environmental Met
Attn : Barb Bowman

Date Rec. : 08 June 2010
LR Report: **CA10033-JUN10**
Reference: Wk#52

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 52	6: Whole Tls Wk# 52	7: Cyclone U/F-Untreated Wk# 52	8: Cyclone U/F-Desulphidized Wk# 52
Sample Date & Time			08-June-10	08-June-10	08-June-10	08-June-10
Hum Cell Leachate Volume [mLs]	---	---	995	874	923	870
pH [no unit]	10-Jun-10	14:14	3.36	3.75	5.88	6.25
Alkalinity [mg/L as CaCO3]	10-Jun-10	14:14	< 2	< 2	< 2	< 2
Acidity [mg/L as CaCO3]	10-Jun-10	14:14	128	59	4	< 2
Conductivity [uS/cm]	10-Jun-10	14:14	578	246	18	11
Sulphate [mg/L]	14-Jun-10	17:20	240	92	3.8	1.0

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Thursday, June 17, 2010

Environmental Met
Attn : Barb Bowman

Date Rec. : 15 June 2010
LR Report: **CA10071-JUN10**
Reference: Wk#53

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#53	6: Whole Tls Wk#53	7: Cyclone U/F-Untreated Wk#53	8: Cyclone U/F-Desulphidized Wk#53
Sample Date & Time			15-JUN-10	15-JUN-10	15-JUN-10	15-JUN-10
Hum Cell Leachate Volume [mLs]	---	---	990	872	883	867
pH [no unit]	16-Jun-10	11:53	3.36	3.72	5.84	6.30
Alkalinity [mg/L as CaCO3]	16-Jun-10	11:53	< 2	< 2	< 2	< 2
Acidity [mg/L as CaCO3]	16-Jun-10	11:53	128	58	4	< 2
Conductivity [uS/cm]	16-Jun-10	11:53	577	241	17	11
Sulphate [mg/L]	17-Jun-10	14:13	220	85	4.1	1.1

Dianne Griffin
Project Specialist

OnLine LIMS

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Phone: 705-652-2000 FAX: 705-652-6365

Project : CALR-12074-002

Tuesday, June 29, 2010

Environmental Met
Attn : Barb Bowman

Date Rec. : 22 June 2010
LR Report: **CA10083-JUN10**
Reference: Wk#54

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#54	6: Whole Tls Wk#54	7: Cyclone U/F-Untreated Wk#54	8: Cyclone U/F-Desulphidized Wk#54
Sample Date & Time			22-Jun-10	22-Jun-10	22-Jun-10	22-Jun-10
Hum Cell Leachate Volume [mLs]	---	---	993	867	874	862
pH [no unit]	24-Jun-10	11:22	3.39	3.75	5.76	6.30
Alkalinity [mg/L as CaCO3]	24-Jun-10	11:22	< 2	< 2	< 2	< 2
Acidity [mg/L as CaCO3]	24-Jun-10	11:22	122	63	4	< 2
Conductivity [uS/cm]	24-Jun-10	11:22	568	247	18	11
Sulphate [mg/L]	29-Jun-10	13:12	220	83	5.2	1.0

Dianne Griffin
Project Specialist

OnLine LIMS

SGS Canada Inc.
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Project : CALR-12074-002

Wednesday, July 07, 2010

Environmental Met
Attn : Barb Bowman

Date Rec. : 29 June 2010
LR Report: **CA10187-JUN10**
Reference: Wk#55

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 55	6: Whole Tls Wk# 55	7: Cyclone U/F-Untreated Wk# 55	8: Cyclone U/F-Desulphidized Wk# 55
Sample Date & Time			29-June-10	29-June-10	29-June-10	29-June-10
Hum Cell Leachate Volume [mLs]	---	---	992	884	942	873
pH [no unit]	30-Jun-10	09:34	3.39	3.73	5.93	6.36
Alkalinity [mg/L as CaCO3]	30-Jun-10	09:34	< 2	< 2	< 2	< 2
Acidity [mg/L as CaCO3]	30-Jun-10	09:34	130	61	3	< 2
Conductivity [uS/cm]	30-Jun-10	09:34	598	266	18	12
Sulphate [mg/L]	06-Jul-10	16:16	220	84	3.5	1.2
Mercury [mg/L]	30-Jun-10	11:52	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	06-Jul-10	10:56	0.00007	0.00004	< 0.00001	< 0.00001
Aluminum [mg/L]	02-Jul-10	08:36	6.30	5.94	0.11	< 0.01
Arsenic [mg/L]	06-Jul-10	10:56	0.0003	0.0003	< 0.0002	< 0.0002
Barium [mg/L]	06-Jul-10	10:56	0.00128	0.00177	0.0553	0.350
Beryllium [mg/L]	06-Jul-10	10:56	0.00160	0.00135	0.00019	0.00004
Boron [mg/L]	06-Jul-10	10:56	0.0009	< 0.0002	< 0.0002	< 0.0002
Bismuth [mg/L]	06-Jul-10	10:56	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Calcium [mg/L]	02-Jul-10	08:36	33.6	14.0	1.47	1.39
Cadmium [mg/L]	06-Jul-10	10:56	0.000926	0.000660	0.000488	0.000066
Cobalt [mg/L]	06-Jul-10	10:56	0.0666	0.0299	0.00168	0.00132
Chromium [mg/L]	06-Jul-10	10:56	0.162	0.0236	< 0.0005	< 0.0005
Copper [mg/L]	06-Jul-10	10:56	39.0	15.0	1.33	0.0850
Iron [mg/L]	02-Jul-10	08:36	12.3	1.34	< 0.002	< 0.002
Potassium [mg/L]	02-Jul-10	08:36	1.18	0.884	0.145	0.302
Lithium [mg/L]	06-Jul-10	10:56	< 0.001	< 0.001	< 0.001	< 0.001
Magnesium [mg/L]	02-Jul-10	08:36	1.59	0.548	0.021	0.043
Manganese [mg/L]	06-Jul-10	10:56	0.254	0.106	0.00933	0.0207
Molybdenum [mg/L]	06-Jul-10	10:56	0.00031	0.00006	0.00038	0.00049
Sodium [mg/L]	02-Jul-10	08:36	0.12	0.09	< 0.01	< 0.01
Nickel [mg/L]	06-Jul-10	10:56	0.238	0.0708	0.0027	0.0018
Lead [mg/L]	06-Jul-10	10:56	0.00025	0.00008	0.00013	< 0.00002

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Project : CALR-12074-002

LR Report : **CA10187-JUN10**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 55	6: Whole Tls Wk# 55	7: Cyclone U/F-Untreated Wk# 55	8: Cyclone U/F-Desulphidized Wk# 55
Antimony [mg/L]	06-Jul-10	10:56	0.0005	0.0003	0.0003	0.0003
Selenium [mg/L]	06-Jul-10	10:56	< 0.001	< 0.001	< 0.001	< 0.001
Silica [mg/L]	02-Jul-10	08:36	7.14	3.49	0.29	0.45
Tin [mg/L]	06-Jul-10	10:56	0.00028	0.00023	0.00130	0.00109
Strontium [mg/L]	02-Jul-10	08:36	0.0243	0.0103	0.0028	0.0073
Titanium [mg/L]	06-Jul-10	10:56	0.0002	< 0.0001	< 0.0001	< 0.0001
Thallium [mg/L]	06-Jul-10	10:56	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Uranium [mg/L]	06-Jul-10	10:56	0.000954	0.000442	0.000008	0.000004
Vanadium [mg/L]	06-Jul-10	10:56	0.00897	0.00436	< 0.00003	< 0.00003
Tungsten [mg/L]	06-Jul-10	10:56	0.00004	< 0.00003	< 0.00003	< 0.00003
Yttrium [mg/L]	06-Jul-10	10:56	0.0469	0.0157	0.000130	0.000053
Zinc [mg/L]	02-Jul-10	08:36	0.558	0.278	0.074	0.014

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Monday, July 12, 2010

Environmental Met
Attn : Barb Bowman

Date Rec. : 06 July 2010
LR Report: **CA10007-JUL10**
Reference: Wk#56

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#56	6: Whole Tls Wk#56	7: Cyclone U/F-Untreated Wk#56	8: Cyclone U/F-Desulphidized Wk#56
Sample Date & Time			06-Jul-10	06-Jul-10	06-Jul-10	06-Jul-10
Hum Cell Leachate Volume [mLs]	---	---	975	949	864	954
pH [no unit]	09-Jul-10	10:48	3.33	3.63	5.72	6.49
Alkalinity [mg/L as CaCO3]	09-Jul-10	10:48	< 2	< 2	< 2	< 2
Acidity [mg/L as CaCO3]	09-Jul-10	10:48	127	65	4	< 2
Conductivity [uS/cm]	09-Jul-10	10:48	588	291	15	12
Sulphate [mg/L]	08-Jul-10	11:25	220	96	3.3	1.0

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Thursday, July 22, 2010

Environmental Met
Attn : Barb Bowman

Date Rec. : 13 July 2010
LR Report: **CA10033-JUL10**
Reference: Wk#57

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#57	6: Whole Tls Wk#57	7: Cyclone U/F-Untreated Wk#57	8: Cyclone U/F-Desulphidized Wk#57
Sample Date & Time			13-Jul-10	13-Jul-10	13-Jul-10	13-Jul-10
Hum Cell Leachate Volume [mLs]	---	---	991	876	911	871
pH [no unit]	16-Jul-10	12:02	3.28	3.62	5.93	6.30
Alkalinity [mg/L as CaCO3]	16-Jul-10	12:02	< 2	< 2	< 2	< 2
Acidity [mg/L as CaCO3]	16-Jul-10	12:02	129	55	4	< 2
Conductivity [uS/cm]	16-Jul-10	12:02	599	259	18	11
Sulphate [mg/L]	21-Jul-10	13:58	250	89	4.5	1.6

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

July 29, 2010

Environmental Met
Attn : Barb Bowman

Date Rec. : 20 July 2010
LR Report: **CA10059-JUL10**
Reference: Wk#58

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#58	6: Whole Tls Wk#58	7: Cyclone U/F-Untreated Wk#58	8: Cyclone U/F-Desulphidized Wk#58
Hum Cell Leachate Volume [mLs]	---	---	990	942	886	883
pH [no unit]	21-Jul-10	12:26	3.33	3.58	5.56	5.93
Alkalinity [mg/L as CaCO3]	21-Jul-10	12:26	< 2	< 2	< 2	< 2
Acidity [mg/L as CaCO3]	21-Jul-10	12:26	127	67	3	< 2
Conductivity [uS/cm]	21-Jul-10	12:26	580	293	17	12
Sulphate [mg/L]	27-Jul-10	15:35	220	100	4.3	1.1

Chris Sullivan, B.Sc., C.Chem
Project Specialist
Environmental Services, Analytical

OnLine LIMS

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Project : CALR-12074-002

Monday, August 09, 2010

Environmental Met
Attn : Barb Bowman

Date Rec. : 27 July 2010
LR Report: **CA10085-JUL10**
Reference: Wk#59

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#59	6: Whole Tls Wk#59	7: Cyclone U/F-Untreated Wk#59	8: Cyclone U/F-Desulphidized Wk#59
Sample Date & Time			27-Jul-10	27-Jul-10	27-Jul-10	27-Jul-10
Hum Cell Leachate Volume [mLs]	---	---	992	868	848	871
pH [no unit]	29-Jul-10	11:46	3.30	3.63	5.06	4.80
Alkalinity [mg/L as CaCO3]	29-Jul-10	11:46	< 2	< 2	< 2	< 2
Acidity [mg/L as CaCO3]	29-Jul-10	11:46	133	55	5	5
Conductivity [uS/cm]	29-Jul-10	11:46	603	256	20	19
Sulphate [mg/L]	03-Aug-10	13:08	230	83	3.2	0.9

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Tuesday, August 10, 2010

Environmental Met
Attn : Barb Bowman

Date Rec. : 04 August 2010
LR Report: **CA11259-AUG10**
Reference: Wk#59

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk#59	6: Cyclone U/F-Desulphidized Wk#59
Sample Date & Time			Date:N/A	Date:N/A
pH [no unit]	06-Aug-10	13:31	5.78	6.30
Acidity [mg/L as CaCO3]	06-Aug-10	13:31	---	< 2
Conductivity [uS/cm]	06-Aug-10	13:31	16	11

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Tuesday, August 10, 2010

Environmental Met
Attn : Barb Bowman

Date Rec. : 03 August 2010
LR Report: **CA10007-AUG10**
Reference: Wk#60

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#60	6: Whole Tls Wk#60	7: Cyclone U/F-Untreated Wk#60	8: Cyclone U/F-Desulphidized Wk#60
Sample Date & Time			03-Aug-10	03-Aug-10	03-Aug-10	03-Aug-10
Hum Cell Leachate Volume [mLs]	---	---	991	992	878	898
pH [no unit]	04-Aug-10	15:33	3.35	3.55	5.57	6.10
Alkalinity [mg/L as CaCO3]	04-Aug-10	15:33	< 2	< 2	< 2	< 2
Acidity [mg/L as CaCO3]	04-Aug-10	15:33	126	72	4	2
Conductivity [uS/cm]	04-Aug-10	15:33	584	331	14	8
Sulphate [mg/L]	06-Aug-10	10:39	220	110	3.2	1.0
Mercury [mg/L]	05-Aug-10	11:39	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	09-Aug-10	12:08	0.00003	0.00002	< 0.00001	< 0.00001
Aluminum [mg/L]	09-Aug-10	17:14	6.08	6.43	0.08	0.13
Arsenic [mg/L]	09-Aug-10	12:08	0.0004	< 0.0002	< 0.0002	< 0.0002
Barium [mg/L]	09-Aug-10	12:08	0.00126	0.00306	0.0377	0.405
Beryllium [mg/L]	09-Aug-10	12:08	0.00137	0.00130	0.00016	0.00003
Boron [mg/L]	09-Aug-10	12:08	0.0009	0.0006	< 0.0002	< 0.0002
Bismuth [mg/L]	09-Aug-10	12:08	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Calcium [mg/L]	09-Aug-10	17:14	32.7	17.2	1.22	1.33
Cadmium [mg/L]	09-Aug-10	12:08	0.000749	0.000752	0.000326	0.000088
Cobalt [mg/L]	09-Aug-10	12:08	0.0589	0.0358	0.00152	0.00150
Chromium [mg/L]	09-Aug-10	12:08	0.182	0.0373	< 0.0005	< 0.0005
Copper [mg/L]	09-Aug-10	12:08	35.9	17.6	1.15	0.0402
Iron [mg/L]	09-Aug-10	17:14	16.0	2.46	0.008	< 0.002
Potassium [mg/L]	09-Aug-10	17:14	1.19	1.28	0.135	0.280
Lithium [mg/L]	09-Aug-10	12:08	0.001	0.001	< 0.001	< 0.001
Magnesium [mg/L]	09-Aug-10	17:14	1.88	0.978	0.017	0.038
Manganese [mg/L]	09-Aug-10	12:09	0.193	0.117	0.00666	0.0181
Molybdenum [mg/L]	09-Aug-10	12:09	0.00003	0.00003	0.00035	0.00044
Sodium [mg/L]	09-Aug-10	17:14	0.10	0.15	< 0.01	0.01
Nickel [mg/L]	09-Aug-10	12:09	0.223	0.0769	0.0027	0.0023
Lead [mg/L]	09-Aug-10	12:09	0.00025	0.00023	0.00004	< 0.00002
Antimony [mg/L]	09-Aug-10	12:09	0.0005	0.0005	0.0004	0.0004
Selenium [mg/L]	09-Aug-10	12:09	< 0.001	< 0.001	< 0.001	< 0.001
Silica [mg/L]	09-Aug-10	17:14	7.89	6.21	0.33	0.56
Tin [mg/L]	09-Aug-10	12:09	0.00026	0.00092	0.00105	0.00111

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Project : CALR-12074-002

LR Report : **CA10007-AUG10**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#60	6: Whole Tls Wk#60	7: Cyclone U/F-Untreated Wk#60	8: Cyclone U/F-Desulphidized Wk#60
Strontium [mg/L]	09-Aug-10	17:14	0.0226	0.0122	0.0015	0.0066
Titanium [mg/L]	09-Aug-10	12:09	0.0003	0.0003	< 0.0001	< 0.0001
Thallium [mg/L]	09-Aug-10	12:09	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Uranium [mg/L]	09-Aug-10	12:09	0.000988	0.000511	0.000007	< 0.000001
Vanadium [mg/L]	09-Aug-10	12:09	< 0.00003	< 0.00003	< 0.00003	< 0.00003
Tungsten [mg/L]	09-Aug-10	12:09	< 0.00003	< 0.00003	< 0.00003	< 0.00003
Yttrium [mg/L]	09-Aug-10	12:09	0.0398	0.0255	0.000246	0.000105
Zinc [mg/L]	09-Aug-10	17:14	0.482	0.319	0.059	0.018

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Monday, August 16, 2010

Environmental Met
Attn : Barb Bowman

Date Rec. : 10 August 2010
LR Report: **CA10033-AUG10**
Reference: Wk#61

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#61	6: Whole Tls Wk#61	7: Cyclone U/F-Untreated Wk#61	8: Cyclone U/F-Desulphidized Wk#61
Sample Date & Time			10-Aug-10	10-Aug-10	10-Aug-10	10-Aug-10
Hum Cell Leachate Volume [mLs]	---	---	1002	883	961	883
pH [no unit]	11-Aug-10	15:19	3.29	3.58	5.83	6.18
Alkalinity [mg/L as CaCO3]	11-Aug-10	15:19	< 2	< 2	< 2	< 2
Acidity [mg/L as CaCO3]	11-Aug-10	15:19	116	53	5	< 2
Conductivity [uS/cm]	11-Aug-10	15:19	602	259	17	13
Sulphate [mg/L]	16-Aug-10	12:06	230	85	4.1	0.9

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Thursday, August 19, 2010

Environmental Met
Attn : Barb Bowman

Date Rec. : 17 August 2010
LR Report: **CA10059-AUG10**
Reference: Wk#62

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#62	6: Whole Tls Wk#62	7: Cyclone U/F-Untreated Wk#62	8: Cyclone U/F-Desulphidized Wk#62
Sample Date & Time			17-Aug-10	17-Aug-10	17-Aug-10	17-Aug-10
Hum Cell Leachate Volume [mLs]	---	---	990	939	855	936
pH [no unit]	18-Aug-10	12:06	3.30	3.55	5.74	6.26
Alkalinity [mg/L as CaCO3]	18-Aug-10	12:06	< 2	< 2	< 2	< 2
Acidity [mg/L as CaCO3]	18-Aug-10	12:06	125	64	4	< 2
Conductivity [uS/cm]	18-Aug-10	12:06	592	306	14	11
Sulphate [mg/L]	19-Aug-10	10:58	210	95	5.2	1.5

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Wednesday, August 25, 2010

Environmental Met
Attn : Barb Bowman

Date Rec. : 24 August 2010
LR Report: **CA11295-AUG10**
Reference: Wk#63

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#63	6: Whole Tls Wk#63	7: Cyclone U/F-Untreated Wk#63	8: Cyclone U/F-Desulphidized Wk#63
Sample Date & Time			24-Aug-10	24-Aug-10	24-Aug-10	24-Aug-10
Hum Cell Leachate Volume [mLs]	---	---	987	988	873	902
pH [no unit]	25-Aug-10	13:02	3.26	3.49	5.67	6.24
Alkalinity [mg/L as CaCO3]	25-Aug-10	13:02	< 2	< 2	< 2	< 2
Acidity [mg/L as CaCO3]	25-Aug-10	13:02	125	69	4	< 2
Conductivity [uS/cm]	25-Aug-10	13:02	603	326	15	11
Sulphate [mg/L]	25-Aug-10	13:39	220	100	3.7	1.0

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Tuesday, September 07, 2010

Environmental Met
Attn : Barb Bowman

Date Rec. : 31 August 2010
LR Report: **CA10275-AUG10**
Reference: Wk#64

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 64	6: Whole Tls Wk# 64	7: Cyclone U/F-Untreated Wk# 64	8: Cyclone U/F-Desulphidized Wk# 64
Sample Date & Time			31-Aug-10	31-Aug-10	31-Aug-10	31-Aug-10
Hum Cell Leachate Volume [mLs]	---	---	999	991	916	958
pH [no unit]	01-Sep-10	15:30	3.18	3.43	5.73	7.05
Alkalinity [mg/L as CaCO3]	01-Sep-10	15:30	< 2	< 2	< 2	4
Acidity [mg/L as CaCO3]	01-Sep-10	15:30	137	69	5	< 2
Conductivity [uS/cm]	01-Sep-10	15:30	619	333	17	15
Sulphate [mg/L]	03-Sep-10	12:42	230	110	4.8	0.9

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Thursday, September 30, 2010

Environmental Met
Attn : Barb Bowman

Date Rec. : 16 September 2010
LR Report: **CA11088-SEP10**
Reference: Wk#64

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Desulphidized Wk# 64
Sample Date & Time			31-Aug-10
pH [no unit]	29-Sep-10	18:18	6.42
Alkalinity [mg/L as CaCO3]	29-Sep-10	18:18	< 2

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Wednesday, September 15, 2010

Environmental Met
Attn : Barb Bowman

Date Rec. : 07 September 2010
LR Report: **CA10019-SEP10**
Reference: Wk#65

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 65	6: Whole Tls Wk# 65	7: Cyclone U/F-Untreated Wk# 65	8: Cyclone U/F-Desulphidized Wk# 65
Sample Date & Time			07-Sept-10	07-Sept-10	07-Sept-10	07-Sept-10
Hum Cell Leachate Volume [mLs]	---	---	982	989	870	877
pH [no unit]	09-Sep-10	09:38	3.33	3.53	5.70	6.18
Alkalinity [mg/L as CaCO3]	09-Sep-10	09:38	< 2	< 2	< 2	< 2
Acidity [mg/L as CaCO3]	09-Sep-10	09:38	128	64	5	3
Conductivity [uS/cm]	09-Sep-10	09:38	576	317	15	10
Sulphate [mg/L]	14-Sep-10	15:18	210	99	3.6	0.9
Mercury [mg/L]	13-Sep-10	08:15	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	14-Sep-10	13:15	0.00006	0.00002	< 0.00001	< 0.00001
Aluminum [mg/L]	15-Sep-10	12:38	5.02	4.82	0.13	< 0.01
Arsenic [mg/L]	14-Sep-10	13:15	0.0007	0.0003	< 0.0002	< 0.0002
Barium [mg/L]	14-Sep-10	13:15	0.00114	0.00262	0.0268	0.364
Beryllium [mg/L]	14-Sep-10	13:15	0.00108	0.00103	0.00017	0.00005
Boron [mg/L]	14-Sep-10	13:15	0.0011	0.0008	0.0002	0.0003
Bismuth [mg/L]	14-Sep-10	13:15	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Calcium [mg/L]	15-Sep-10	12:38	27.6	14.8	0.99	0.92
Cadmium [mg/L]	14-Sep-10	13:15	0.000600	0.000601	0.000309	0.000092
Cobalt [mg/L]	14-Sep-10	13:15	0.0561	0.0336	0.00139	0.00149
Chromium [mg/L]	14-Sep-10	13:15	0.205	0.0400	< 0.0005	< 0.0005
Copper [mg/L]	14-Sep-10	13:15	27.5	13.0	1.47	0.0545
Iron [mg/L]	15-Sep-10	12:38	16.6	2.70	0.023	< 0.002
Potassium [mg/L]	15-Sep-10	12:38	0.964	1.03	0.118	0.218
Lithium [mg/L]	14-Sep-10	13:15	< 0.001	< 0.001	< 0.001	< 0.001
Magnesium [mg/L]	15-Sep-10	12:38	1.79	0.986	0.004	0.013
Manganese [mg/L]	14-Sep-10	13:15	0.147	0.106	0.00542	0.0146
Molybdenum [mg/L]	14-Sep-10	13:15	0.00004	0.00001	0.00031	0.00045
Sodium [mg/L]	15-Sep-10	12:42	0.04	0.10	< 0.01	< 0.01
Nickel [mg/L]	14-Sep-10	13:15	0.229	0.0845	0.0020	0.0022
Lead [mg/L]	14-Sep-10	13:15	0.00011	0.00122	0.00003	0.00002

SGS Canada Inc.
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Project : CALR-12074-002

LR Report : **CA10019-SEP10**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 65	6: Whole Tls Wk# 65	7: Cyclone U/F-Untreated Wk# 65	8: Cyclone U/F-Desulphidized Wk# 65
Antimony [mg/L]	14-Sep-10	13:15	0.0005	0.0005	0.0004	0.0004
Selenium [mg/L]	14-Sep-10	13:15	0.001	< 0.001	< 0.001	< 0.001
Silica [mg/L]	15-Sep-10	12:42	6.89	6.04	0.31	0.44
Tin [mg/L]	14-Sep-10	13:15	0.00036	0.00106	0.00085	0.00106
Strontium [mg/L]	15-Sep-10	12:43	0.0178	0.0104	0.0007	0.0045
Titanium [mg/L]	14-Sep-10	13:15	0.0006	0.0005	< 0.0001	< 0.0001
Thallium [mg/L]	14-Sep-10	13:15	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Uranium [mg/L]	14-Sep-10	13:15	0.000944	0.000453	0.000005	0.000001
Vanadium [mg/L]	14-Sep-10	13:15	< 0.00003	< 0.00003	0.00007	0.00010
Tungsten [mg/L]	14-Sep-10	13:15	< 0.00003	< 0.00003	< 0.00003	< 0.00003
Yttrium [mg/L]	14-Sep-10	13:15	0.0359	0.0247	0.000058	0.000012
Zinc [mg/L]	15-Sep-10	12:43	0.347	0.232	0.058	0.020

Dianne Griffin
Project Specialist

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Project : CALR-12074-002

Thursday, September 23, 2010

Environmental Met
Attn : Barb Bowman

Date Rec. : 14 September 2010
LR Report: **CA10045-SEP10**
Reference: Wk#66

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#66	6: Whole Tls Wk#66	7: Cyclone U/F-Untreated Wk#66	8: Cyclone U/F-Desulphidized Wk#66
Sample Date & Time			14-Sep-10	14-Sep-10	14-Sep-10	14-Sep-10
Hum Cell Leachate Volume [mLs]	---	---	996	893	860	874
pH [no unit]	15-Sep-10	11:55	3.29	3.62	5.77	6.12
Alkalinity [mg/L as CaCO3]	15-Sep-10	11:55	< 2	< 2	< 2	< 2
Acidity [mg/L as CaCO3]	15-Sep-10	11:55	132	43	4	< 2
Conductivity [uS/cm]	15-Sep-10	11:55	623	245	17	10
Sulphate [mg/L]	22-Sep-10	13:40	220	69	6.0	1.1

Dianne Griffin
Project Specialist

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Project : CALR-12074-002

Monday, September 27, 2010

Environmental Met
Attn : Barb Bowman

Date Rec. : 21 September 2010
LR Report: **CA10069-SEP10**
Reference: Wk#67

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#67	6: Whole Tls Wk#67	7: Cyclone U/F Untreated WK# 67	8: Cyclone U/F-Desulphidized Wk#67
Sample Date & Time			21-Sep-10	21-Sep-10	21-Sep-10	21-Sep-10
Hum Cell Leachate Volume [mLs]	---	---	989	908	921	890
pH [no unit]	23-Sep-10	09:06	3.26	3.59	6.05	6.53
Alkalinity [mg/L as CaCO3]	23-Sep-10	09:06	< 2	< 2	< 2	2
Acidity [mg/L as CaCO3]	23-Sep-10	09:06	121	42	< 2	< 2
Conductivity [uS/cm]	23-Sep-10	09:06	562	228	18	11
Sulphate [mg/L]	27-Sep-10	15:20	210	69	4.4	0.9

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Tuesday, November 02, 2010

Environmental Met
Attn : Barb Bowman

Date Rec. : 12 October 2010
LR Report: **CA11155-OCT10**
Reference: Wk#67

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F Untreated WK# 67
Sample Date & Time			21-Sep-10
Hum Cell Leachate Volume [mLs]	---	---	921
pH [no unit]	17-Oct-10	17:46	5.37
Acidity [mg/L as CaCO3]	02-Nov-10	10:39	4

Dianne Griffin
Project Specialist

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Project : CALR-12074-002

Wednesday, October 06, 2010

Environmental Met
Attn : Barb Bowman

Date Rec. : 28 September 2010
LR Report: **CA10093-SEP10**
Reference: Wk#68

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#68	6: Whole Tls Wk#68	7: Cyclone U/F-Untreated Wk#68	8: Cyclone U/F-Desulphidized Wk#68
Sample Date & Time			28-Sep-10	28-Sep-10	28-Sep-10	28-Sep-10
Hum Cell Leachate Volume [mLs]	---	---	985	897	915	880
pH [no unit]	30-Sep-10	08:43	3.33	3.63	5.67	6.30
Alkalinity [mg/L as CaCO3]	30-Sep-10	08:43	< 2	< 2	< 2	< 2
Acidity [mg/L as CaCO3]	30-Sep-10	08:43	132	47	5	< 2
Conductivity [uS/cm]	30-Sep-10	08:54	581	245	17	10
Sulphate [mg/L]	05-Oct-10	13:23	210	70	4.1	0.9

Dianne Griffin
Project Specialist

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Project : CALR-12074-002

Tuesday, October 19, 2010

Environmental Met
Attn : Barb Bowman

Date Rec. : 05 October 2010
LR Report: **CA10088-OCT10**
Reference: Wk#69

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#69	6: Whole Tls Wk#69	7: Cyclone U/F-Untreated Wk#69	8: Cyclone U/F-Desulphidized Wk#69
Sample Date & Time			05-Oct-10	05-Oct-10	05-Oct-10	05-Oct-10
Hum Cell Leachate Volume [mLs]	---	---	988	990	875	875
pH [no unit]	07-Oct-10	09:17	3.30	3.57	5.76	6.25
Alkalinity [mg/L as CaCO3]	07-Oct-10	09:17	< 2	< 2	< 2	< 2
Acidity [mg/L as CaCO3]	07-Oct-10	09:17	128	58	5	< 2
Conductivity [uS/cm]	07-Oct-10	09:17	591	313	14	10
Sulphate [mg/L]	12-Oct-10	16:00	210	100	4.5	1.0

Dianne Griffin
Project Specialist

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Project : CALR-12074-002

Wednesday, October 20, 2010

Environmental Met
Attn : Barb Bowman

Date Rec. : 12 October 2010
LR Report: **CA10112-OCT10**
Reference: Wk#70

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#70	6: Whole Tls Wk#70	7: Cyclone U/F-Untreated Wk#70	8: Cyclone U/F-Desulphidized Wk#70
Sample Date & Time			12-Oct-10	12-Oct-10	12-Oct-10	12-Oct-10
Hum Cell Leachate Volume [mLs]	---	---	988	993	916	996
pH [no unit]	17-Oct-10	17:38	3.33	3.60	5.67	6.04
Alkalinity [mg/L as CaCO3]	17-Oct-10	17:38	< 2	< 2	< 2	< 2
Acidity [mg/L as CaCO3]	17-Oct-10	17:38	121	56	5	4
Conductivity [uS/cm]	17-Oct-10	17:38	552	288	16	8
Sulphate [mg/L]	18-Oct-10	14:50	220	90	4.1	0.8
Mercury [mg/L]	14-Oct-10	07:37	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	19-Oct-10	19:22	0.00003	0.00001	< 0.00001	< 0.00001
Aluminum [mg/L]	14-Oct-10	12:44	4.88	4.21	0.12	< 0.01
Arsenic [mg/L]	19-Oct-10	19:22	0.0003	0.0002	< 0.0002	< 0.0002
Barium [mg/L]	19-Oct-10	19:22	0.00201	0.00430	0.0306	0.379
Beryllium [mg/L]	19-Oct-10	19:22	0.00085	0.00077	0.00018	0.00005
Boron [mg/L]	19-Oct-10	19:22	0.0022	0.0018	0.0012	0.0010
Bismuth [mg/L]	19-Oct-10	19:22	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Calcium [mg/L]	14-Oct-10	12:44	28.6	16.9	1.28	1.17
Cadmium [mg/L]	19-Oct-10	19:22	0.000487	0.000496	0.000319	0.000082
Cobalt [mg/L]	19-Oct-10	19:22	0.0450	0.0268	0.00134	0.00136
Chromium [mg/L]	19-Oct-10	19:22	0.203	0.0395	< 0.0005	< 0.0005
Copper [mg/L]	19-Oct-10	19:22	26.0	11.2	1.52	0.0593
Iron [mg/L]	14-Oct-10	12:44	19.6	2.33	< 0.002	< 0.002
Potassium [mg/L]	14-Oct-10	12:44	0.893	0.995	0.125	0.191
Lithium [mg/L]	19-Oct-10	19:22	0.001	0.001	< 0.001	< 0.001
Magnesium [mg/L]	14-Oct-10	12:44	2.04	1.13	0.016	0.027
Manganese [mg/L]	19-Oct-10	19:22	0.118	0.0994	0.00553	0.0140
Molybdenum [mg/L]	19-Oct-10	19:22	0.00004	< 0.00001	0.00029	0.00038
Sodium [mg/L]	14-Oct-10	12:45	0.07	0.14	0.01	0.02
Nickel [mg/L]	19-Oct-10	19:22	0.210	0.0760	0.0019	0.0021
Lead [mg/L]	19-Oct-10	19:22	0.00018	0.00012	0.00003	< 0.00002
Antimony [mg/L]	19-Oct-10	19:22	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Selenium [mg/L]	19-Oct-10	19:22	< 0.001	< 0.001	< 0.001	< 0.001
Silica [mg/L]	14-Oct-10	12:45	6.86	5.94	0.33	0.43
Tin [mg/L]	19-Oct-10	19:23	0.00025	0.00088	0.00067	0.00167

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Project : CALR-12074-002

LR Report : **CA10112-OCT10**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#70	6: Whole Tls Wk#70	7: Cyclone U/F-Untreated Wk#70	8: Cyclone U/F-Desulphidized Wk#70
Strontium [mg/L]	14-Oct-10	12:45	0.0177	0.0113	0.0015	0.0053
Titanium [mg/L]	19-Oct-10	19:23	0.0008	0.0007	< 0.0001	< 0.0001
Thallium [mg/L]	19-Oct-10	19:23	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Uranium [mg/L]	19-Oct-10	19:23	0.00115	0.000531	0.000012	0.000002
Vanadium [mg/L]	19-Oct-10	19:23	< 0.00003	< 0.00003	< 0.00003	< 0.00003
Tungsten [mg/L]	19-Oct-10	19:23	0.00008	< 0.00003	< 0.00003	< 0.00003
Yttrium [mg/L]	19-Oct-10	19:23	0.0343	0.0315	0.000156	0.000015
Zinc [mg/L]	14-Oct-10	12:45	0.315	0.191	0.066	0.023

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Wednesday, October 27, 2010

Environmental Met
Attn : Barb Bowman

Date Rec. : 19 October 2010
LR Report: **CA10260-OCT10**
Reference: Wk#71

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#71	6: Whole Tls Wk#71	7: Cyclone U/F-Untreated Wk#71	8: Cyclone U/F-Desulphidized Wk#71
Sample Date & Time			19-Oct-10	19-Oct-10	19-Oct-10	19-Oct-10
Hum Cell Leachate Volume [mLs]	---	---	990	957	904	898
pH [no unit]	22-Oct-10	10:10	3.29	3.61	5.74	6.14
Alkalinity [mg/L as CaCO3]	22-Oct-10	10:10	< 2	< 2	< 2	< 2
Acidity [mg/L as CaCO3]	22-Oct-10	10:10	136	51	5	2
Conductivity [uS/cm]	22-Oct-10	10:10	594	273	15	8
Sulphate [mg/L]	27-Oct-10	15:14	230	86	3.8	0.9

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Tuesday, November 02, 2010

Environmental Met
Attn : Barb Bowman

Date Rec. : 26 October 2010
LR Report: **CA10281-OCT10**
Reference: Wk#72

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#72	6: Whole Tls Wk#72	7: Cyclone U/F-Untreated Wk#72	8: Cyclone U/F-Desulphidized Wk#72
Sample Date & Time			26-Oct-10	26-Oct-10	26-Oct-10	26-Oct-10
Hum Cell Leachate Volume [mLs]	---	---	992	904	888	894
pH [no unit]	27-Oct-10	10:10	3.29	3.61	5.51	6.04
Alkalinity [mg/L as CaCO3]	27-Oct-10	10:10	< 2	< 2	< 2	< 2
Acidity [mg/L as CaCO3]	27-Oct-10	10:10	139	44	6	3
Conductivity [uS/cm]	27-Oct-10	10:10	604	241	16	8
Sulphate [mg/L]	29-Oct-10	15:23	210	65	4.1	0.8

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Tuesday, November 09, 2010

Environmental Met
Attn : Barb Bowman

Date Rec. : 02 November 2010
LR Report: **CA10006-NOV10**
Reference: Wk#73

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#73	6: Whole Tls Wk#73	7: Cyclone U/F-Untreated Wk#73	8: Cyclone U/F-Desulphidized Wk#73
Sample Date & Time			02-Nov-10	02-Nov-10	02-Nov-10	02-Nov-10
Hum Cell Leachate Volume [mLs]	---	---	988	982	872	946
pH [no unit]	05-Nov-10	08:24	3.33	3.57	5.80	6.09
Alkalinity [mg/L as CaCO3]	05-Nov-10	08:24	< 2	< 2	< 2	< 2
Acidity [mg/L as CaCO3]	05-Nov-10	08:24	128	52	5	3
Conductivity [uS/cm]	05-Nov-10	08:24	577	295	15	6
Sulphate [mg/L]	09-Nov-10	12:07	200	90	3.4	0.9

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Wednesday, November 17, 2010

Environmental Met
Attn : Barb Bowman

Date Rec. : 09 November 2010
LR Report: **CA10029-NOV10**
Reference: Wk#74

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 74	6: Whole Tls Wk# 74	7: Cyclone U/F-Untreated Wk# 74	8: Cyclone U/F-Desulphidized Wk# 74
Sample Date & Time			09-Nov-10	09-Nov-10	09-Nov-10	09-Nov-10
Hum Cell Leachate Volume [mLs]	---	---	998	875	858	874
pH [no unit]	10-Nov-10	13:06	3.26	3.93	5.68	6.06
Alkalinity [mg/L as CaCO3]	10-Nov-10	13:06	< 2	< 2	< 2	< 2
Acidity [mg/L as CaCO3]	10-Nov-10	13:06	133	32	5	< 2
Conductivity [uS/cm]	10-Nov-10	13:06	617	206	17	11
Sulphate [mg/L]	16-Nov-10	15:25	210	69	4.0	1.0

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Wednesday, December 15, 2010

Environmental Met
Attn : Barb Bowman

Date Rec. : 08 December 2010
LR Report: **CA10204-DEC10**
Reference: Wk#75

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Desulphidized Wk#75
Sample Date & Time			16-Nov-10
Hum Cell Leachate Volume [mLs]	---	---	865
Lead [mg/L]	14-Dec-10	10:24	0.00038

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Friday, November 19, 2010

Environmental Met
Attn : Barb Bowman

Date Rec. : 16 November 2010
LR Report: **CA11183-NOV10**
Reference: Wk#75

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#75	6: Whole Tls Wk#75	7: Cyclone U/F-Untreated Wk#75	8: Cyclone U/F-Desulphidized Wk#75
Sample Date & Time			16-Nov-10	16-Nov-10	16-Nov-10	16-Nov-10
Hum Cell Leachate Volume [mLs]	---	---	990	945	862	865
pH [no unit]	17-Nov-10	12:33	3.26	3.51	5.76	5.99
Alkalinity [mg/L as CaCO3]	17-Nov-10	12:33	< 2	< 2	< 2	< 2
Acidity [mg/L as CaCO3]	17-Nov-10	12:33	124	47	6	< 2
Conductivity [uS/cm]	17-Nov-10	12:33	582	284	17	10
Sulphate [mg/L]	18-Nov-10	13:00	200	81	4.0	0.9
Mercury [mg/L]	19-Nov-10	09:34	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	19-Nov-10	14:08	0.00004	0.00001	< 0.00001	< 0.00001
Aluminum [mg/L]	18-Nov-10	11:53	4.67	3.33	0.18	0.01
Arsenic [mg/L]	19-Nov-10	14:08	0.0004	0.0003	< 0.0002	< 0.0002
Barium [mg/L]	19-Nov-10	14:08	0.00116	0.00240	0.0336	0.421
Beryllium [mg/L]	19-Nov-10	14:08	0.00066	0.00053	0.00017	0.00004
Boron [mg/L]	19-Nov-10	14:08	0.0017	0.0011	0.0006	0.0005
Bismuth [mg/L]	19-Nov-10	14:08	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Calcium [mg/L]	18-Nov-10	11:53	29.3	15.2	1.30	1.16
Cadmium [mg/L]	19-Nov-10	14:08	0.000449	0.000360	0.000326	0.000107
Cobalt [mg/L]	19-Nov-10	14:08	0.0415	0.0214	0.00122	0.00122
Chromium [mg/L]	19-Nov-10	14:08	0.223	0.0349	< 0.0005	< 0.0005
Copper [mg/L]	19-Nov-10	14:08	21.1	7.50	1.75	0.0648
Iron [mg/L]	18-Nov-10	11:53	24.1	2.21	< 0.002	< 0.002
Potassium [mg/L]	18-Nov-10	11:53	0.904	0.884	0.146	0.225
Lithium [mg/L]	19-Nov-10	14:08	< 0.001	< 0.001	< 0.001	< 0.001
Magnesium [mg/L]	18-Nov-10	11:53	2.28	1.09	0.012	0.025
Manganese [mg/L]	19-Nov-10	14:08	0.100	0.0759	0.00485	0.0114
Molybdenum [mg/L]	19-Nov-10	14:08	0.00015	0.00003	0.00037	0.00044
Sodium [mg/L]	18-Nov-10	11:53	0.08	0.11	< 0.01	0.02
Nickel [mg/L]	19-Nov-10	14:08	0.235	0.0730	0.0020	0.0024
Lead [mg/L]	19-Nov-10	14:08	0.00160	0.00032	0.00022	0.00041
Antimony [mg/L]	19-Nov-10	14:08	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Selenium [mg/L]	19-Nov-10	14:08	< 0.001	< 0.001	< 0.001	< 0.001
Silica [mg/L]	18-Nov-10	11:53	7.35	4.90	0.33	0.42
Tin [mg/L]	19-Nov-10	14:08	0.00024	0.00062	0.00067	0.00098

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Project : CALR-12074-002

LR Report : **CA11183-NOV10**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#75	6: Whole Tls Wk#75	7: Cyclone U/F-Untreated Wk#75	8: Cyclone U/F-Desulphidized Wk#75
Strontium [mg/L]	18-Nov-10	11:53	0.0185	0.0101	0.0014	0.0046
Titanium [mg/L]	19-Nov-10	14:08	0.0005	0.0003	< 0.0001	< 0.0001
Thallium [mg/L]	19-Nov-10	14:08	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Uranium [mg/L]	19-Nov-10	14:08	0.001285	0.000585	0.000008	0.000001
Vanadium [mg/L]	19-Nov-10	14:08	< 0.00003	< 0.00003	< 0.00003	< 0.00003
Tungsten [mg/L]	19-Nov-10	14:08	< 0.00003	< 0.00003	< 0.00003	< 0.00003
Yttrium [mg/L]	19-Nov-10	14:08	0.0323	0.0324	0.000104	0.000011
Zinc [mg/L]	18-Nov-10	11:53	0.254	0.127	0.064	0.023

Dianne Griffin
Project Specialist

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Project : CALR-12074-002

Thursday, November 25, 2010

Environmental Met
Attn : Barb Bowman

Date Rec. : 23 November 2010
LR Report: **CA11204-NOV10**
Reference: Wk#76

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 76	6: Whole Tls Wk# 76	7: Cyclone U/F-Untreated Wk# 76	8: Cyclone U/F-Desulphidized Wk# 76
Sample Date & Time			23-Nov-10	23-Nov-10	23-Nov-10	23-Nov-10
Hum Cell Leachate Volume [mLs]	---	---	988	859	877	883
pH [no unit]	24-Nov-10	16:23	3.19	3.57	5.96	6.24
Alkalinity [mg/L as CaCO3]	24-Nov-10	16:23	< 2	< 2	< 2	< 2
Acidity [mg/L as CaCO3]	24-Nov-10	16:23	129	38	5	< 2
Conductivity [uS/cm]	24-Nov-10	16:23	641	243	25	14
Sulphate [mg/L]	25-Nov-10	12:04	220	66	6.8	1.3

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Tuesday, December 07, 2010

Environmental Met
Attn : Barb Bowman

Date Rec. : 30 November 2010
LR Report: **CA11225-NOV10**
Reference: Wk#77

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 77	6: Whole Tls Wk# 77	7: Cyclone U/F-Untreated Wk# 77	8: Cyclone U/F-Desulphidized Wk# 77
Sample Date & Time			30-Nov-10	30-Nov-10	30-Nov-10	30-Nov-10
Hum Cell Leachate Volume [mLs]	---	---	980	876	845	874
pH [no unit]	01-Dec-10	12:24	3.23	3.57	5.88	6.24
Alkalinity [mg/L as CaCO3]	01-Dec-10	12:24	< 2	< 2	< 2	< 2
Acidity [mg/L as CaCO3]	01-Dec-10	12:24	119	39	5	< 2
Conductivity [uS/cm]	01-Dec-10	12:24	559	228	18	10
Sulphate [mg/L]	07-Dec-10	10:48	200	67	6.0	1.1

Dianne Griffin
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Project : CALR-12074-002

Tuesday, December 14, 2010

Environmental Met
Attn : Barb Bowman

Date Rec. : 07 December 2010
LR Report: **CA10014-DEC10**
Reference: Wk#78

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 78	6: Whole Tls Wk# 78	7: Cyclone U/F-Untreated Wk# 78	8: Cyclone U/F-Desulphidized Wk# 78
Sample Date & Time			07-Dec-10	07-Dec-10	07-Dec-10	07-Dec-10
Hum Cell Leachate Volume [mLs]	---	---	982	900	993	917
pH [no unit]	10-Dec-10	09:33	3.24	3.54	5.77	6.26
Alkalinity [mg/L as CaCO3]	10-Dec-10	09:33	< 2	< 2	< 2	< 2
Acidity [mg/L as CaCO3]	10-Dec-10	09:33	131	50	6	< 2
Conductivity [uS/cm]	10-Dec-10	09:33	568	267	20	9
Sulphate [mg/L]	13-Dec-10	21:03	210	89	4.4	0.9

Dianne Griffin
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Project : CALR-12074-002

Thursday, December 23, 2010

Environmental Met
Attn : Barb Bowman

Date Rec. : 14 December 2010
LR Report: **CA10044-DEC10**
Reference: Wk#79

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 79	6: Whole Tls Wk# 79	7: Cyclone U/F-Untreated Wk# 79	8: Cyclone U/F-Desulphidized Wk# 79
Sample Date & Time			14-Dec-10	14-Dec-10	14-Dec-10	14-Dec-10
Hum Cell Leachate Volume [mLs]	---	---	985	891	912	892
pH [no unit]	16-Dec-10	10:46	3.24	3.51	6.03	6.06
Alkalinity [mg/L as CaCO3]	16-Dec-10	10:46	< 2	< 2	< 2	< 2
Acidity [mg/L as CaCO3]	16-Dec-10	10:46	131	49	3	< 2
Conductivity [uS/cm]	16-Dec-10	10:46	630	318	20	9
Sulphate [mg/L]	22-Dec-10	15:26	210	86	4.1	0.8

Dianne Griffin
Project Specialist

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Project : CALR-12074-002

Tuesday, January 04, 2011

Environmental Met
Attn : Barb Bowman

Date Rec. : 21 December 2010
LR Report: **CA10069-DEC10**
Reference: Wk#80

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 80	6: Whole Tls Wk# 80	7: Cyclone U/F-Untreated Wk# 80	8: Cyclone U/F-Desulphidized Wk# 80
Sample Date & Time			21-Dec-10	21-Dec-10	21-Dec-10	21-Dec-10
Hum Cell Leachate Volume [mLs]	---	---	987	890	927	895
pH [no unit]	22-Dec-10	15:56	3.18	3.43	5.78	6.18
Alkalinity [mg/L as CaCO3]	22-Dec-10	15:56	< 2	< 2	< 2	< 2
Acidity [mg/L as CaCO3]	22-Dec-10	15:56	137	53	6	< 2
Conductivity [uS/cm]	22-Dec-10	15:56	631	322	17	8
Sulphate [mg/L]	31-Dec-10	13:28	240	92	5.7	0.8
Mercury [mg/L]	23-Dec-10	08:26	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	24-Dec-10	11:49	0.00004	0.00001	< 0.00001	< 0.00001
Aluminum [mg/L]	23-Dec-10	08:35	4.24	2.98	0.12	0.03
Arsenic [mg/L]	24-Dec-10	11:49	0.0005	0.0004	< 0.0002	0.0002
Barium [mg/L]	24-Dec-10	11:49	0.00102	0.00225	0.0439	0.378
Beryllium [mg/L]	24-Dec-10	11:49	0.00053	0.00043	0.00013	0.00003
Boron [mg/L]	24-Dec-10	11:49	0.0010	0.0006	0.0004	0.0003
Bismuth [mg/L]	24-Dec-10	11:49	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Calcium [mg/L]	23-Dec-10	08:35	29.3	15.5	1.22	0.95
Cadmium [mg/L]	24-Dec-10	11:49	0.000391	0.000296	0.000275	0.000090
Cobalt [mg/L]	24-Dec-10	11:49	0.0429	0.0220	0.00131	0.00113
Chromium [mg/L]	24-Dec-10	11:49	0.262	0.0455	0.0008	< 0.0005
Copper [mg/L]	24-Dec-10	11:49	21.6	7.14	1.82	0.0865
Iron [mg/L]	23-Dec-10	08:35	28.9	3.45	0.008	0.003
Potassium [mg/L]	23-Dec-10	08:35	0.884	0.884	0.157	0.199
Lithium [mg/L]	24-Dec-10	11:49	< 0.001	0.001	< 0.001	< 0.001
Magnesium [mg/L]	23-Dec-10	08:35	2.51	1.21	0.012	0.022
Manganese [mg/L]	24-Dec-10	11:49	0.0873	0.0691	0.00437	0.00923
Molybdenum [mg/L]	24-Dec-10	11:49	< 0.00001	< 0.00001	0.00035	0.00035
Sodium [mg/L]	23-Dec-10	08:35	0.06	0.11	0.01	0.02
Nickel [mg/L]	24-Dec-10	11:49	0.256	0.0808	0.0087	0.0034
Lead [mg/L]	24-Dec-10	11:49	0.00005	0.00004	0.00002	< 0.00002
Antimony [mg/L]	24-Dec-10	11:49	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Selenium [mg/L]	24-Dec-10	11:49	< 0.001	< 0.001	< 0.001	< 0.001
Silica [mg/L]	23-Dec-10	08:35	7.14	4.17	0.33	0.34
Tin [mg/L]	24-Dec-10	11:49	0.00024	0.00051	0.00065	0.00081

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Project : CALR-12074-002

LR Report : **CA10069-DEC10**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 80	6: Whole Tls Wk# 80	7: Cyclone U/F-Untreated Wk# 80	8: Cyclone U/F-Desulphidized Wk# 80
Strontium [mg/L]	23-Dec-10	08:35	0.0194	0.0096	0.0014	0.0039
Titanium [mg/L]	24-Dec-10	11:49	0.0011	0.0008	< 0.0001	< 0.0001
Thallium [mg/L]	24-Dec-10	11:49	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Uranium [mg/L]	24-Dec-10	11:49	0.00156	0.000947	0.000012	0.000003
Vanadium [mg/L]	24-Dec-10	11:49	< 0.00003	< 0.00003	< 0.00003	< 0.00003
Tungsten [mg/L]	24-Dec-10	11:49	< 0.00003	< 0.00003	< 0.00003	< 0.00003
Yttrium [mg/L]	24-Dec-10	11:49	0.0334	0.0422	0.000258	0.000045
Zinc [mg/L]	23-Dec-10	08:35	0.256	0.112	0.060	0.021

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

November-29-12

Environmental Met
Attn : Barb Bowman

Date Rec. : 20 November 2012
LR Report: **CA11036-NOV12**
Reference: Wk#180

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk#180
Sample Date & Time			20-Nov-12
Hum Cell Leachate Volume [mL]	---	---	993
pH [units]	28-Nov-12	14:58	5.80
Alkalinity [mg/L as CaCO3]	28-Nov-12	14:58	< 2
Acidity [mg/L as CaCO3]	28-Nov-12	14:58	< 2
Conductivity [µS/cm]	28-Nov-12	14:58	17
Sulphate [mg/L]	25-Nov-12	10:15	3.5
Mercury [mg/L]	22-Nov-12	11:35	< 0.0001
Silver [mg/L]	27-Nov-12	15:09	< 0.00001
Aluminum [mg/L]	23-Nov-12	10:30	0.08
Arsenic [mg/L]	27-Nov-12	15:10	< 0.0002
Barium [mg/L]	27-Nov-12	15:10	0.134
Beryllium [mg/L]	27-Nov-12	15:10	0.00005
Boron [mg/L]	27-Nov-12	15:10	< 0.0002
Bismuth [mg/L]	27-Nov-12	15:10	< 0.00001
Calcium [mg/L]	23-Nov-12	10:30	1.26
Cadmium [mg/L]	27-Nov-12	15:10	0.000066
Cobalt [mg/L]	27-Nov-12	15:10	0.000551
Chromium [mg/L]	27-Nov-12	15:10	< 0.0005
Copper [mg/L]	27-Nov-12	15:10	1.68
Iron [mg/L]	23-Nov-12	10:30	< 0.003
Potassium [mg/L]	23-Nov-12	10:30	0.154
Lithium [mg/L]	27-Nov-12	15:10	< 0.001
Magnesium [mg/L]	23-Nov-12	10:30	0.008
Manganese [mg/L]	27-Nov-12	15:10	0.00191
Molybdenum [mg/L]	27-Nov-12	15:10	0.00073
Sodium [mg/L]	23-Nov-12	10:30	0.02
Nickel [mg/L]	27-Nov-12	15:10	0.0010
Lead [mg/L]	27-Nov-12	15:10	0.00055

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Project : CALR-12074-002

LR Report : **CA11036-NOV12**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk#180
Antimony [mg/L]	27-Nov-12	15:10	0.0004
Selenium [mg/L]	27-Nov-12	15:10	< 0.001
Silicon [mg/L]	23-Nov-12	10:30	0.21
Tin [mg/L]	27-Nov-12	15:10	0.00141
Strontium [mg/L]	23-Nov-12	10:31	0.0013
Titanium [mg/L]	27-Nov-12	15:10	< 0.0001
Thallium [mg/L]	27-Nov-12	15:10	< 0.00002
Uranium [mg/L]	27-Nov-12	15:10	0.000003
Vanadium [mg/L]	27-Nov-12	15:10	< 0.00003
Tungsten [mg/L]	27-Nov-12	15:10	< 0.00003
Yttrium [mg/L]	27-Nov-12	15:10	0.000036
Zinc [mg/L]	23-Nov-12	10:31	0.021

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Wednesday, January 05, 2011

Environmental Met
Attn : Barb Bowman

Date Rec. : 29 December 2010
LR Report: **CA10094-DEC10**
Reference: Wk#81

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 81	6: Whole Tls Wk# 81	7: Cyclone U/F-Untreated Wk# 81	8: Cyclone U/F-Desulphidized Wk# 81
Sample Date & Time			29-Dec-10	29-Dec-10	29-Dec-10	29-Dec-10
Hum Cell Leachate Volume [mLs]	---	---	991	870	860	869
pH [no unit]	30-Dec-10	10:27	3.23	3.42	5.53	5.75
Alkalinity [mg/L as CaCO3]	30-Dec-10	10:27	< 2	< 2	< 2	< 2
Acidity [mg/L as CaCO3]	30-Dec-10	10:27	136	58	6	3
Conductivity [uS/cm]	30-Dec-10	10:27	619	341	17	7
Sulphate [mg/L]	05-Jan-11	12:58	220	96	4.0	0.8

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Tuesday, January 11, 2011

Environmental Met
Attn : Barb Bowman

Date Rec. : 04 January 2011
LR Report: **CA10008-JAN11**
Reference: Wk#82

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 82	6: Whole Tls Wk# 82	7: Cyclone U/F-Untreated Wk# 82	8: Cyclone U/F-Desulphidized Wk# 82
Sample Date & Time			04-Jan-11	04-Jan-11	04-Jan-11	04-Jan-11
Hum Cell Leachate Volume [mLs]	---	---	991	963	959	1001
pH [no unit]	05-Jan-11	12:07	3.19	3.32	5.74	6.10
Alkalinity [mg/L as CaCO3]	05-Jan-11	12:07	< 2	< 2	< 2	< 2
Acidity [mg/L as CaCO3]	05-Jan-11	12:07	123	61	5	3
Conductivity [uS/cm]	05-Jan-11	12:07	590	359	17	7
Sulphate [mg/L]	07-Jan-11	09:32	190	97	3.7	0.8

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Monday, January 17, 2011

Environmental Met
Attn : Barb Bowman

Date Rec. : 11 January 2011
LR Report: **CA10036-JAN11**
Reference: Wk#83

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 83	6: Whole Tls Wk# 83	7: Cyclone U/F-Untreated Wk# 83	8: Cyclone U/F-Desulphidized Wk# 83
Sample Date & Time			11-Jan-11	11-Jan-11	11-Jan-11	11-Jan-11
Hum Cell Leachate Volume [mLs]	---	---	964	896	987	893
pH [no unit]	12-Jan-11	11:40	3.08	3.33	5.91	6.11
Alkalinity [mg/L as CaCO3]	12-Jan-11	11:40	< 2	< 2	< 2	< 2
Acidity [mg/L as CaCO3]	12-Jan-11	11:40	144	56	6	< 2
Conductivity [uS/cm]	12-Jan-11	11:40	673	324	20	6
Sulphate [mg/L]	17-Jan-11	15:13	220	83	5.4	0.8

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Monday, January 24, 2011

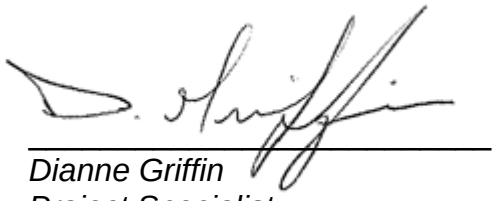
Environmental Met
Attn : Barb Bowman

Date Rec. : 18 January 2011
LR Report: **CA10065-JAN11**
Reference: Wk#84

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#84	6: Whole Tls Wk#84	7: Cyclone U/F-Untreated Wk#84	8: Cyclone U/F-Desulphidized Wk#84
Sample Date & Time			18-Jan-11	18-Jan-11	18-Jan-11	18-Jan-11
Hum Cell Leachate Volume [mLs]	---	---	991	972	976	981
pH [no unit]	19-Jan-11	15:31	3.29	3.49	5.94	6.19
Alkalinity [mg/L as CaCO3]	19-Jan-11	15:31	< 2	< 2	< 2	< 2
Acidity [mg/L as CaCO3]	19-Jan-11	15:31	136	58	5	< 2
Conductivity [uS/cm]	19-Jan-11	15:31	641	331	18	8
Sulphate [mg/L]	24-Jan-11	09:23	220	94	4.6	0.9



Dianne Griffin
Project Specialist

OnLine LIMS

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
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Phone: 705-652-2000 FAX: 705-652-6365

Project : CALR-12074-002

Monday, January 31, 2011

Environmental Met
Attn : Barb Bowman

Date Rec. : 25 January 2011
LR Report: **CA10094-JAN11**
Reference: Wk#85

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 85	6: Whole Tls Wk# 85	7: Cyclone U/F-Untreated Wk# 85	8: Cyclone U/F-Desulphidized Wk# 85
Sample Date & Time			25-Jan-11	25-Jan-11	25-Jan-11	25-Jan-11
Hum Cell Leachate Volume [mLs]	---	---	989	874	890	975
pH [no unit]	28-Jan-11	12:03	3.30	3.49	5.82	6.05
Alkalinity [mg/L as CaCO3]	28-Jan-11	12:03	< 2	< 2	< 2	< 2
Acidity [mg/L as CaCO3]	28-Jan-11	12:03	125	55	5	2
Conductivity [uS/cm]	28-Jan-11	12:03	586	317	17	7
Sulphate [mg/L]	31-Jan-11	11:34	200	81	3.4	0.8
Mercury [mg/L]	25-Jan-11	14:43	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	31-Jan-11	07:54	0.00003	< 0.00001	< 0.00001	< 0.00001
Aluminum [mg/L]	26-Jan-11	15:16	3.12	2.45	0.10	0.03
Arsenic [mg/L]	31-Jan-11	07:54	0.0005	0.0002	< 0.0002	< 0.0002
Barium [mg/L]	31-Jan-11	07:54	0.00107	0.00262	0.0562	0.373
Beryllium [mg/L]	31-Jan-11	07:54	0.00037	0.00034	0.00010	0.00004
Boron [mg/L]	31-Jan-11	07:54	0.0006	0.0004	< 0.0002	< 0.0002
Bismuth [mg/L]	31-Jan-11	07:54	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Calcium [mg/L]	26-Jan-11	15:16	26.9	12.3	1.24	1.01
Cadmium [mg/L]	31-Jan-11	07:54	0.000283	0.000251	0.000491	0.000166
Cobalt [mg/L]	31-Jan-11	07:54	0.0357	0.0200	0.000964	0.00110
Chromium [mg/L]	31-Jan-11	07:54	0.229	0.0502	0.0007	< 0.0005
Copper [mg/L]	31-Jan-11	07:54	15.8	5.45	1.67	0.111
Iron [mg/L]	26-Jan-11	15:16	25.4	4.49	0.006	< 0.002
Potassium [mg/L]	26-Jan-11	15:17	0.762	0.874	0.150	0.187
Lithium [mg/L]	31-Jan-11	07:54	< 0.001	< 0.001	< 0.001	< 0.001
Magnesium [mg/L]	26-Jan-11	15:17	1.83	1.05	0.011	0.019
Manganese [mg/L]	31-Jan-11	07:54	0.0648	0.0548	0.00493	0.00893
Molybdenum [mg/L]	31-Jan-11	07:54	0.00005	0.00001	0.00041	0.00035
Sodium [mg/L]	26-Jan-11	15:17	0.05	0.07	0.01	0.02
Nickel [mg/L]	31-Jan-11	07:54	0.186	0.0663	0.0021	0.0026
Lead [mg/L]	31-Jan-11	07:54	0.00008	0.00072	0.00015	0.00005
Antimony [mg/L]	31-Jan-11	07:54	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Selenium [mg/L]	31-Jan-11	07:54	< 0.001	< 0.001	< 0.001	< 0.001
Silica [mg/L]	26-Jan-11	15:17	6.14	4.37	0.32	0.38
Tin [mg/L]	31-Jan-11	07:54	0.00021	0.00047	0.00106	0.00084

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Project : CALR-12074-002

LR Report : **CA10094-JAN11**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 85	6: Whole Tls Wk# 85	7: Cyclone U/F-Untreated Wk# 85	8: Cyclone U/F-Desulphidized Wk# 85
Strontium [mg/L]	26-Jan-11	15:17	0.0165	0.0082	0.0012	0.0036
Titanium [mg/L]	31-Jan-11	07:54	0.0012	0.0005	< 0.0001	< 0.0001
Thallium [mg/L]	31-Jan-11	07:54	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Uranium [mg/L]	31-Jan-11	07:54	0.00139	0.00113	0.000014	0.000001
Vanadium [mg/L]	31-Jan-11	07:54	< 0.00003	< 0.00003	< 0.00003	< 0.00003
Tungsten [mg/L]	31-Jan-11	07:54	< 0.00003	< 0.00003	< 0.00003	< 0.00003
Yttrium [mg/L]	31-Jan-11	07:54	0.0263	0.0386	0.000346	0.000086
Zinc [mg/L]	26-Jan-11	15:17	0.194	0.084	0.045	0.023

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Thursday, February 10, 2011

Environmental Met
Attn : Barb Bowman

Date Rec. : 01 February 2011
LR Report: **CA10006-FEB11**
Reference: Wk#86

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#86	6: Whole Tls Wk#86	7: Cyclone U/F-Untreated Wk#86	8: Cyclone U/F-Desulphidized Wk#86
Sample Date & Time			01-Feb-11	01-Feb-11	01-Feb-11	01-Feb-11
Hum Cell Leachate Volume [mLs]	---	---	991	949	984	973
pH [no unit]	02-Feb-11	14:51	3.19	3.34	5.77	6.00
Alkalinity [mg/L as CaCO3]	02-Feb-11	14:51	< 2	< 2	< 2	< 2
Acidity [mg/L as CaCO3]	02-Feb-11	14:51	146	66	5	2
Conductivity [uS/cm]	02-Feb-11	14:51	658	374	16	10
Sulphate [mg/L]	08-Feb-11	13:45	220	96	4.0	0.9

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Wednesday, February 16, 2011

Environmental Met
Attn : Barb Bowman

Date Rec. : 08 February 2011
LR Report: **CA10036-FEB11**
Reference: Wk#87

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 87	6: Whole Tls Wk# 87	7: Cyclone U/F-Untreated Wk# 87	8: Cyclone U/F-Desulphidized Wk# 87
Sample Date & Time			08-Feb-11	08-Feb-11	08-Feb-11	08-Feb-11
Hum Cell Leachate Volume [mLs]	---	---	991	992	982	876
pH [no unit]	09-Feb-11	09:53	3.20	3.39	5.79	6.07
Alkalinity [mg/L as CaCO3]	09-Feb-11	09:53	< 2	< 2	< 2	< 2
Acidity [mg/L as CaCO3]	09-Feb-11	09:53	140	59	5	< 2
Conductivity [uS/cm]	09-Feb-11	09:53	637	331	16	8
Sulphate [mg/L]	15-Feb-11	13:46	210	96	4.5	1.0

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Thursday, February 24, 2011

Environmental Met
Attn : Barb Bowman

Date Rec. : 15 February 2011
LR Report: **CA10065-FEB11**
Reference: Wk#88

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 88	6: Whole Tls Wk# 88	7: Cyclone U/F-Untreated Wk# 88	8: Cyclone U/F-Desulphidized Wk# 88
Sample Date & Time			15-Feb-11	15-Feb-11	15-Feb-11	15-Feb-11
Hum Cell Leachate Volume [mLs]	---	---	993	868	979	875
pH [no unit]	17-Feb-11	15:54	3.20	3.42	5.74	6.13
Alkalinity [mg/L as CaCO3]	17-Feb-11	15:54	< 2	< 2	< 2	< 2
Acidity [mg/L as CaCO3]	17-Feb-11	15:54	138	46	5	2
Conductivity [uS/cm]	17-Feb-11	15:54	618	239	21	6
Sulphate [mg/L]	23-Feb-11	17:42	230	70	3.5	0.8

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Friday, March 11, 2011

Environmental Met
Attn : Barb Bowman

Date Rec. : 22 February 2011
LR Report: **CA10097-FEB11**
Reference: Wk#89

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 89	6: Whole Tls Wk# 89	7: Cyclone U/F-Untreated Wk# 89	8: Cyclone U/F-Desulphidized Wk# 89
Sample Date & Time			22-Feb-11	22-Feb-11	22-Feb-11	22-Feb-11
Hum Cell Leachate Volume [mL]	---	---	990	897	992	870
pH [units]	25-Feb-11	18:28	3.24	3.30	5.73	6.02
Alkalinity [mg/L as CaCO3]	25-Feb-11	18:28	< 2	< 2	< 2	< 2
Acidity [mg/L as CaCO3]	25-Feb-11	18:28	128	57	4	< 2
Conductivity [uS/cm]	25-Feb-11	18:28	599	330	15	6
Sulphate [mg/L]	01-Mar-11	14:27	210	81	3.4	0.9

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Wednesday, March 16, 2011

Environmental Met
Attn : Barb Bowman

Date Rec. : 01 March 2011
LR Report: **CA10006-MAR11**
Reference: Wk#90

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 90	6: Whole Tls Wk# 90	7: Cyclone U/F-Untreated Wk# 90	8: Cyclone U/F-Desulphidized Wk# 90
Sample Date & Time			01-Mar-11	01-Mar-11	01-Mar-11	01-Mar-11
Hum Cell Leachate Volume [mL]	---	---	994	1000	993	966
pH [units]	04-Mar-11	15:29	3.22	3.44	5.82	6.41
Alkalinity [mg/L as CaCO3]	04-Mar-11	15:29	< 2	< 2	< 2	<2
Acidity [mg/L as CaCO3]	04-Mar-11	15:29	138	52	4	< 2
Conductivity [uS/cm]	04-Mar-11	15:29	640	284	14	9
Sulphate [mg/L]	08-Mar-11	14:45	220	75	5.1	0.8
Mercury (total) [mg/L]	03-Mar-11	11:46	0.0002	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	03-Mar-11	14:39	0.00005	0.00002	< 0.00001	< 0.00001
Aluminum (total) [mg/L]	03-Mar-11	17:29	3.29	2.20	0.11	0.03
Arsenic [mg/L]	03-Mar-11	14:39	0.0005	0.0004	< 0.0002	< 0.0002
Barium [mg/L]	03-Mar-11	14:39	0.00106	0.00292	0.0405	0.372
Beryllium [mg/L]	03-Mar-11	14:39	0.00037	0.00031	0.00012	0.00006
Boron [mg/L]	03-Mar-11	14:39	0.0011	0.0008	0.0003	0.0002
Bismuth [mg/L]	03-Mar-11	14:39	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Calcium [mg/L]	03-Mar-11	17:29	28.5	9.93	1.09	0.94
Cadmium [mg/L]	03-Mar-11	14:39	0.000431	0.000415	0.000202	0.000114
Cobalt [mg/L]	03-Mar-11	14:39	0.0360	0.0178	0.000727	0.00105
Chromium [mg/L]	03-Mar-11	14:39	0.273	0.0493	< 0.0005	< 0.0005
Copper [mg/L]	03-Mar-11	14:39	15.4	3.70	1.60	0.102
Iron [mg/L]	03-Mar-11	17:29	31.6	5.04	0.004	0.002
Potassium [mg/L]	03-Mar-11	17:29	0.793	0.854	0.126	0.179
Lithium [mg/L]	03-Mar-11	14:39	0.001	< 0.001	< 0.001	< 0.001
Magnesium [mg/L]	03-Mar-11	17:29	1.91	1.05	0.008	0.018
Manganese [mg/L]	03-Mar-11	14:39	0.0599	0.0464	0.00274	0.00745
Molybdenum [mg/L]	03-Mar-11	14:39	0.00003	< 0.00001	0.00036	0.00040
Sodium [mg/L]	03-Mar-11	17:29	0.05	0.07	0.01	0.03
Nickel [mg/L]	03-Mar-11	14:39	0.169	0.0566	0.0012	0.0026
Lead [mg/L]	03-Mar-11	14:45	0.00146	0.00020	0.00002	< 0.00002
Antimony [mg/L]	03-Mar-11	14:45	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Selenium [mg/L]	03-Mar-11	14:45	< 0.001	< 0.001	< 0.001	< 0.001
Silicon [mg/L]	03-Mar-11	17:29	6.80	4.61	0.28	0.37
Tin [mg/L]	03-Mar-11	14:45	0.00027	0.00096	0.00165	0.00127

OnLine LIMS

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Project : CALR-12074-002

LR Report : **CA10006-MAR11**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 90	6: Whole Tls Wk# 90	7: Cyclone U/F-Untreated Wk# 90	8: Cyclone U/F-Desulphidized Wk# 90
Strontium [mg/L]	03-Mar-11	17:30	0.0185	0.0087	0.0010	0.0032
Titanium [mg/L]	03-Mar-11	14:45	0.0008	0.0006	< 0.0001	< 0.0001
Thallium [mg/L]	03-Mar-11	14:45	0.00008	0.00004	< 0.00002	< 0.00002
Uranium [mg/L]	03-Mar-11	14:45	0.00164	0.00109	0.000007	0.000002
Vanadium [mg/L]	03-Mar-11	14:45	0.00118	0.00010	< 0.00003	< 0.00003
Tungsten [mg/L]	03-Mar-11	14:45	< 0.00003	< 0.00003	< 0.00003	< 0.00003
Yttrium [mg/L]	03-Mar-11	14:45	0.0256	0.0343	0.000071	0.000021
Zinc [mg/L]	03-Mar-11	17:30	0.167	0.067	0.037	0.022

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Tuesday, March 15, 2011

Environmental Met
Attn : Barb Bowman

Date Rec. : 08 March 2011
LR Report: **CA10036-MAR11**
Reference: Wk#91

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 91	6: Whole Tls Wk# 91	7: Cyclone U/F-Untreated Wk# 91	8: Cyclone U/F-Desulphidized Wk# 91
Sample Date & Time			08-Mar-11	08-Mar-11	08-Mar-11	08-Mar-11
Hum Cell Leachate Volume [mL]	---	---	986	978	964	981
pH [units]	10-Mar-11	11:46	3.22	3.45	5.84	5.90
Alkalinity [mg/L as CaCO3]	10-Mar-11	11:46	< 2	< 2	< 2	< 2
Acidity [mg/L as CaCO3]	10-Mar-11	11:46	137	51	< 2	4
Conductivity [µS/cm]	10-Mar-11	11:46	624	231	14	3
Sulphate [mg/L]	15-Mar-11	12:54	210	73	5.1	1.2

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Friday, March 18, 2011

Environmental Met
Attn : Barb Bowman

Date Rec. : 15 March 2011
LR Report: **CA10070-MAR11**
Reference: Wk#92

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 92	6: Whole Tls Wk# 92	7: Cyclone U/F Untreated WK# 92	8: Cyclone U/F-Desulphidized Wk# 92
Sample Date & Time			15-Mar-11	15-Mar-11	15-Mar-11	15-Mar-11
Hum Cell Leachate Volume [mL]	---	---	995	882	917	888
pH [units]	18-Mar-11	08:48	3.17	3.29	5.64	6.20
Alkalinity [mg/L as CaCO3]	18-Mar-11	08:48	< 2	< 2	< 2	< 2
Acidity [mg/L as CaCO3]	18-Mar-11	08:48	146	59	6	6
Conductivity [µS/cm]	18-Mar-11	08:48	640	276	4	3
Sulphate [mg/L]	18-Mar-11	09:06	220	79	4.9	0.9

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Tuesday, March 29, 2011

Environmental Met
Attn : Barb Bowman

Date Rec. : 22 March 2011
LR Report: **CA10102-MAR11**
Reference: Wk#93

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk#93	6: Whole Tls Wk#93	7: Cyclone U/F-Untreated Wk#93	8: Cyclone U/F-Desulphidized Wk#93
Sample Date & Time			22-Mar-11	22-Mar-11	22-Mar-11	22-Mar-11
Hum Cell Leachate Volume [mL]	---	---	988	997	977	964
pH [units]	24-Mar-11	09:52	3.21	3.41	5.77	5.99
Alkalinity [mg/L as CaCO3]	24-Mar-11	09:52	< 2	< 2	< 2	3
Acidity [mg/L as CaCO3]	24-Mar-11	09:52	141	57	6	3
Conductivity [µS/cm]	24-Mar-11	09:52	635	249	4	3
Sulphate [mg/L]	24-Mar-11	15:57	210	68	4.4	0.8

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Monday, April 04, 2011

Environmental Met
Attn : Barb Bowman

Date Rec. : 29 March 2011
LR Report: **CA10222-MAR11**
Reference: Wk#94

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 94	6: Whole Tls Wk# 94	7: Cyclone U/F-Untreated Wk# 94	8: Cyclone U/F-Desulphidized Wk# 94
Sample Date & Time			29-Mar-11	29-Mar-11	29-Mar-11	29-Mar-11
Hum Cell Leachate Volume [mL]	---	---	990	985	980	990
pH [units]	31-Mar-11	10:18	3.19	3.40	5.53	6.02
Alkalinity [mg/L as CaCO3]	31-Mar-11	10:18	< 2	< 2	< 2	< 2
Acidity [mg/L as CaCO3]	31-Mar-11	10:18	143	52	6	3
Conductivity [µS/cm]	31-Mar-11	10:18	659	303	19	8
Sulphate [mg/L]	01-Apr-11	15:57	230	74	4.4	0.8

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Wednesday, April 13, 2011

Environmental Met
Attn : Barb Bowman

Date Rec. : 05 April 2011
LR Report: **CA10010-APR11**
Reference: Wk#95

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 95	6: Whole Tls Wk# 95	7: Cyclone U/F-Untreated Wk# 95	8: Cyclone U/F-Desulphidized Wk# 95
Sample Date & Time			05-Apr-11	05-Apr-11	05-Apr-11	05-Apr-11
Hum Cell Leachate Volume [mL]	---	---	1001	960	990	952
pH [units]	07-Apr-11	12:10	3.20	3.42	5.90	6.09
Alkalinity [mg/L as CaCO3]	07-Apr-11	12:10	< 2	< 2	< 2	< 2
Acidity [mg/L as CaCO3]	07-Apr-11	12:10	135	49	5	< 2
Conductivity [µS/cm]	07-Apr-11	12:10	649	269	18	8
Sulphate [mg/L]	08-Apr-11	09:40	230	71	4.6	0.9
Mercury [mg/L]	07-Apr-11	11:19	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	08-Apr-11	13:10	0.00005	0.00002	< 0.00001	< 0.00001
Aluminum [mg/L]	07-Apr-11	13:09	3.53	1.89	0.15	0.04
Arsenic [mg/L]	08-Apr-11	13:10	0.0004	< 0.0002	< 0.0002	< 0.0002
Barium [mg/L]	08-Apr-11	13:10	0.00202	0.00291	0.0413	0.413
Beryllium [mg/L]	08-Apr-11	13:10	0.00028	0.00022	0.00013	0.00005
Boron [mg/L]	08-Apr-11	13:10	0.0008	0.0004	< 0.0002	< 0.0002
Bismuth [mg/L]	08-Apr-11	13:10	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Calcium [mg/L]	07-Apr-11	13:09	30.2	6.74	1.33	0.97
Cadmium [mg/L]	08-Apr-11	13:10	0.000225	0.000152	0.000214	0.000100
Cobalt [mg/L]	08-Apr-11	13:10	0.0355	0.0155	0.000895	0.00102
Chromium [mg/L]	08-Apr-11	13:10	0.267	0.0467	< 0.0005	< 0.0005
Copper [mg/L]	08-Apr-11	13:10	13.0	2.68	1.86	0.114
Iron [mg/L]	07-Apr-11	13:09	37.3	5.82	0.003	< 0.002
Potassium [mg/L]	07-Apr-11	13:09	0.822	0.755	0.154	0.178
Lithium [mg/L]	08-Apr-11	13:10	0.001	< 0.001	< 0.001	< 0.001
Magnesium [mg/L]	07-Apr-11	13:09	1.98	0.964	0.009	0.017
Manganese [mg/L]	08-Apr-11	13:10	0.0576	0.0387	0.00326	0.00694
Molybdenum [mg/L]	08-Apr-11	13:10	0.00010	0.00001	0.00041	0.00041
Sodium [mg/L]	07-Apr-11	13:09	0.04	0.04	< 0.01	0.02
Nickel [mg/L]	08-Apr-11	13:10	0.128	0.0422	0.0017	0.0027
Lead [mg/L]	08-Apr-11	13:10	0.00057	0.00007	0.00007	0.00003
Antimony [mg/L]	08-Apr-11	13:10	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Selenium [mg/L]	08-Apr-11	13:10	< 0.001	< 0.001	< 0.001	< 0.001
Silicon [mg/L]	07-Apr-11	13:09	7.22	3.94	0.37	0.38
Tin [mg/L]	08-Apr-11	13:10	0.00027	0.00074	0.00128	0.00118

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Project : CALR-12074-002

LR Report : **CA10010-APR11**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 95	6: Whole Tls Wk# 95	7: Cyclone U/F-Untreated Wk# 95	8: Cyclone U/F-Desulphidized Wk# 95
Strontium [mg/L]	07-Apr-11	13:09	0.0204	0.0076	0.0011	0.0031
Titanium [mg/L]	08-Apr-11	13:10	0.0006	0.0003	< 0.0001	< 0.0001
Thallium [mg/L]	08-Apr-11	13:10	0.00007	0.00004	< 0.00002	< 0.00002
Uranium [mg/L]	08-Apr-11	13:10	0.00205	0.00129	0.000012	0.000003
Vanadium [mg/L]	08-Apr-11	13:10	0.00141	0.00006	< 0.00003	< 0.00003
Tungsten [mg/L]	08-Apr-11	13:10	< 0.00003	< 0.00003	< 0.00003	< 0.00003
Yttrium [mg/L]	08-Apr-11	13:10	0.0230	0.0284	0.000192	0.000015
Zinc [mg/L]	07-Apr-11	13:09	0.154	0.047	0.046	0.023

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Monday, April 25, 2011

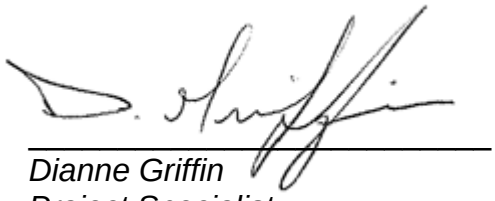
Environmental Met
Attn : Barb Bowman

Date Rec. : 12 April 2011
LR Report: **CA10039-APR11**
Reference: Wk#96

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 96	6: Whole Tls Wk# 96	7: Cyclone U/F-Untreated Wk# 96	8: Cyclone U/F-Desulphidized Wk# 96
Sample Date & Time			12-Apr-11	12-Apr-11	12-Apr-11	12-Apr-11
Hum Cell Leachate Volume [mL]	---	---	986	993	988	898
pH [units]	18-Apr-11	14:22	3.15	3.35	5.82	5.96
Alkalinity [mg/L as CaCO3]	18-Apr-11	14:22	< 2	< 2	< 2	< 2
Acidity [mg/L as CaCO3]	18-Apr-11	14:22	145	55	5	2
Conductivity [µS/cm]	18-Apr-11	14:22	665	235	4	3
Sulphate [mg/L]	21-Apr-11	14:25	230	73	4.4	0.7



Dianne Griffin
Project Specialist

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Project : CALR-12074-002

Friday, April 29, 2011

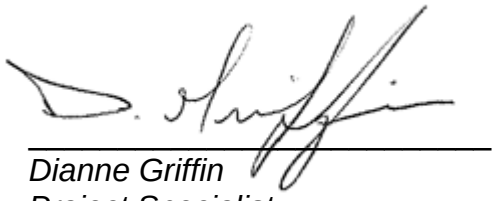
Environmental Met
Attn : Barb Bowman

Date Rec. : 19 April 2011
LR Report: **CA10128-APR11**
Reference: Wk#97

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 97	6: Whole Tls Wk# 97	7: Cyclone U/F-Untreated Wk# 97	8: Cyclone U/F-Desulphidized Wk# 97
Sample Date & Time			19-Apr-11	19-Apr-11	19-Apr-11	19-Apr-11
Hum Cell Leachate Volume [mL]	---	---	988	989	958	954
pH [units]	25-Apr-11	11:41	3.20	3.41	5.76	6.08
Alkalinity [mg/L as CaCO3]	25-Apr-11	11:41	< 2	< 2	< 2	< 2
Acidity [mg/L as CaCO3]	25-Apr-11	11:41	138	52	5	< 2
Conductivity [µS/cm]	25-Apr-11	11:41	625	217	14	2
Sulphate [mg/L]	27-Apr-11	14:39	220	68	4.6	1.0



Dianne Griffin
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Project : CALR-12074-002

Wednesday, May 11, 2011

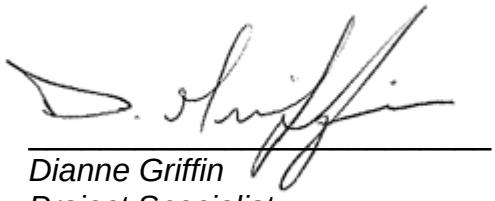
Environmental Met
Attn : Barb Bowman

Date Rec. : 26 April 2011
LR Report: **CA11054-APR11**
Reference: Wk#98

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 98	6: Whole Tls Wk# 98	7: Cyclone U/F-Untreated Wk# 98	8: Cyclone U/F-Desulphidized Wk# 98
Sample Date & Time			26-Apr-11	26-Apr-11	26-Apr-11	26-Apr-11
Hum Cell Leachate Volume [mL]	---	---	987	987	989	988
pH [units]	29-Apr-11	14:54	3.16	3.43	5.81	6.08
Alkalinity [mg/L as CaCO3]	29-Apr-11	14:54	< 2	< 2	< 2	< 2
Acidity [mg/L as CaCO3]	29-Apr-11	14:54	140	48	5	< 2
Conductivity [µS/cm]	03-May-11	15:44	606	219	12	2
Sulphate [mg/L]	04-May-11	17:40	220	63	3.6	0.6



Dianne Griffin
Project Specialist

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Project : CALR-12074-002

Thursday, May 19, 2011

Environmental Met
Attn : Barb Bowman

Date Rec. : 03 May 2011
LR Report: **CA10049-MAY11**
Reference: Wk#99

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 99	6: Whole Tls Wk# 99	7: Cyclone U/F-Untreated Wk# 99	8: Cyclone U/F-Desulphidized Wk# 99
Sample Date & Time			03-May-11	03-May-11	03-May-11	03-May-11
Hum Cell Leachate Volume [mL]	---	---	993	991	994	991
pH [units]	05-May-11	14:17	3.19	3.38	5.87	6.07
Alkalinity [mg/L as CaCO3]	05-May-11	14:17	< 2	< 2	< 2	< 2
Acidity [mg/L as CaCO3]	05-May-11	14:17	147	54	4	2
Conductivity [µS/cm]	05-May-11	14:17	665	240	4	3
Sulphate [mg/L]	10-May-11	16:06	220	67	3.7	0.7

Dianne Griffin
Project Specialist

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Project : CALR-12074-002

Thursday, May 19, 2011

Environmental Met
Attn : Barb Bowman

Date Rec. : 10 May 2011
LR Report: **CA10067-MAY11**
Reference: Wk#100

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 100	6: Whole Tls Wk# 100	7: Cyclone U/F-Untreated Wk# 100	8: Cyclone U/F-Desulphidized Wk# 100
Sample Date & Time			10-May-11	10-May-11	10-May-11	10-May-11
Hum Cell Leachate Volume [mL]	---	---	981	993	955	947
pH [units]	12-May-11	16:48	3.13	3.39	5.82	6.18
Alkalinity [mg/L as CaCO3]	12-May-11	16:48	< 2	< 2	< 2	< 2
Acidity [mg/L as CaCO3]	12-May-11	16:48	151	48	5	2
Conductivity [µS/cm]	12-May-11	16:48	688	209	14	8
Sulphate [mg/L]	19-May-11	11:20	230	62	4.3	0.8
Mercury [mg/L]	12-May-11	09:07	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver [mg/L]	13-May-11	08:56	0.00005	< 0.00001	< 0.00001	< 0.00001
Aluminum [mg/L]	12-May-11	13:37	3.14	1.56	0.10	0.03
Arsenic [mg/L]	13-May-11	08:56	0.0005	0.0002	< 0.0002	< 0.0002
Barium [mg/L]	13-May-11	08:56	0.00160	0.00324	0.0383	0.365
Beryllium [mg/L]	13-May-11	08:56	0.00022	0.00017	0.00011	0.00005
Boron [mg/L]	13-May-11	08:56	0.0007	0.0004	< 0.0002	< 0.0002
Bismuth [mg/L]	13-May-11	08:56	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Calcium [mg/L]	12-May-11	13:37	29.7	4.74	1.17	0.95
Cadmium [mg/L]	13-May-11	08:56	0.000415	0.000273	0.000185	0.000101
Cobalt [mg/L]	13-May-11	08:56	0.0408	0.0147	0.000878	0.000977
Chromium [mg/L]	13-May-11	08:56	0.290	0.0502	< 0.0005	< 0.0005
Copper [mg/L]	13-May-11	08:56	14.4	2.15	1.75	0.131
Iron [mg/L]	12-May-11	13:37	38.7	7.05	0.012	< 0.002
Potassium [mg/L]	12-May-11	13:37	0.727	0.741	0.148	0.181
Lithium [mg/L]	13-May-11	08:56	< 0.001	< 0.001	< 0.001	< 0.001
Magnesium [mg/L]	12-May-11	13:37	1.69	0.863	0.009	0.016
Manganese [mg/L]	13-May-11	08:56	0.0504	0.0316	0.00261	0.00584
Molybdenum [mg/L]	13-May-11	08:56	0.00001	< 0.00001	0.00031	0.00037
Sodium [mg/L]	12-May-11	13:37	0.03	0.03	< 0.01	0.02
Nickel [mg/L]	13-May-11	08:56	0.102	0.0307	0.0015	0.0025
Lead [mg/L]	13-May-11	08:56	0.00015	0.00010	0.00003	< 0.00002
Antimony [mg/L]	13-May-11	08:56	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Selenium [mg/L]	13-May-11	08:56	< 0.001	< 0.001	< 0.001	< 0.001
Silicon [mg/L]	12-May-11	13:37	6.62	3.73	0.31	0.35
Tin [mg/L]	13-May-11	08:56	0.00020	0.00055	0.00098	0.00123

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Project : CALR-12074-002

LR Report : **CA10067-MAY11**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: 1st Cl Scav Tls Wk# 100	6: Whole Tls Wk# 100	7: Cyclone U/F-Untreated Wk# 100	8: Cyclone U/F-Desulphidized Wk# 100
Strontium [mg/L]	12-May-11	13:37	0.0189	0.0067	0.0008	0.0027
Titanium [mg/L]	13-May-11	08:57	0.0008	0.0006	< 0.0001	< 0.0001
Thallium [mg/L]	13-May-11	08:57	0.00005	< 0.00002	< 0.00002	< 0.00002
Uranium [mg/L]	13-May-11	08:57	0.00187	0.00105	0.000011	0.000001
Vanadium [mg/L]	13-May-11	08:57	0.00158	0.00015	< 0.00003	< 0.00003
Tungsten [mg/L]	13-May-11	08:57	< 0.00003	< 0.00003	< 0.00003	< 0.00003
Yttrium [mg/L]	13-May-11	08:57	0.0192	0.0210	0.000185	0.000037
Zinc [mg/L]	12-May-11	13:38	0.154	0.040	0.039	0.023

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Monday, June 06, 2011

Environmental Met
Attn : Barb Bowman

Date Rec. : 17 May 2011
LR Report: **CA10101-MAY11**
Reference: Wk#101

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F Untreated Wk#101	6: Cyclone U/F-Desulphidized Wk#101
Sample Date & Time			17-May-11	17-May-11
Hum Cell Leachate Volume [mL]	---	---	980	1004
pH [units]	19-May-11	12:42	5.74	6.18
Alkalinity [mg/L as CaCO3]	19-May-11	12:42	< 2	< 2
Acidity [mg/L as CaCO3]	19-May-11	12:42	4	< 2
Conductivity [µS/cm]	19-May-11	12:42	16	8
Sulphate [mg/L]	30-May-11	16:47	4.0	0.9

Dianne Griffin
Project Specialist

OnLine LIMS

SGS Canada Inc.
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Phone: 705-652-2000 FAX: 705-652-6365

Project : CALR-12074-002

Monday, June 06, 2011

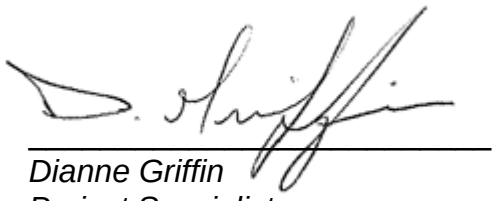
Environmental Met
Attn : Barb Bowman

Date Rec. : 24 May 2011
LR Report: **CA10140-MAY11**
Reference: Wk#102

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 102	6: Cyclone U/F-Desulphidized Wk# 102
Sample Date & Time			24-May-11	24-May-11
Hum Cell Leachate Volume [mL]	---	---	957	916
pH [uits]	26-May-11	19:11	5.95	6.10
Alkalinity [mg/L as CaCO3]	26-May-11	19:11	< 2	< 2
Acidity [mg/L as CaCO3]	26-May-11	19:11	4	2
Conductivity [µS/cm]	26-May-11	19:11	15	7
Sulphate [mg/L]	02-Jun-11	11:11	3.6	0.8



Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Friday, June 10, 2011

Environmental Met
Attn : Barb Bowman

Date Rec. : 31 May 2011
LR Report: **CA11410-MAY11**
Reference: Wk#103

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 103	6: Cyclone U/F-Desulphidized Wk# 103
Sample Date & Time			31-May-11	31-May-11
Hum Cell Leachate Volume [mL]	---	---	977	985
pH [units]	02-Jun-11	16:31	5.91	6.04
Alkalinity [mg/L as CaCO3]	02-Jun-11	16:31	< 2	< 2
Acidity [mg/L as CaCO3]	02-Jun-11	16:31	6	3
Conductivity [µS/cm]	02-Jun-11	16:31	16	7
Sulphate [mg/L]	08-Jun-11	16:01	4.9	0.7

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Thursday, June 16, 2011

Environmental Met
Attn : Barb Bowman

Date Rec. : 07 June 2011
LR Report: **CA10024-JUN11**
Reference: Wk#104

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk#104	6: Cyclone U/F-Desulphidized Wk#104
Sample Date & Time			07-Jun-11	07-Jun-11
Hum Cell Leachate Volume [mL]	---	---	977	994
pH [units]	09-Jun-11	14:33	5.68	5.85
Alkalinity [mg/L as CaCO3]	09-Jun-11	14:33	< 2	< 2
Acidity [mg/L as CaCO3]	09-Jun-11	14:33	6	3
Conductivity [µS/cm]	09-Jun-11	14:33	17	7
Sulphate [mg/L]	15-Jun-11	16:24	4.3	0.8

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Thursday, June 30, 2011

Environmental Met
Attn : Barb Bowman

Date Rec. : 22 June 2011
LR Report: **CA11313-JUN11**
Reference: Wk#104

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Sample ID	Sample Date & Time	pH units
3: Analysis Approval Date		30-Jun-11
4: Analysis Approval Time		12:57
5: Cyclone U/F-Untreated Wk#104	07-Jun-11	5.73
6: Cyclone U/F-Desulphidized Wk#104	07-Jun-11	6.00

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Thursday, June 23, 2011

Environmental Met
Attn : Barb Bowman

Date Rec. : 14 June 2011
LR Report: **CA10064-JUN11**
Reference: Wk#105

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk#105	6: Cyclone U/F-Desulphidized Wk#105
Sample Date & Time			14-June-11	14-June-11
Hum Cell Leachate Volume [mL]	---	---	988	991
pH [units]	16-Jun-11	15:13	5.93	6.08
Alkalinity [mg/L as CaCO3]	16-Jun-11	15:13	< 2	< 2
Acidity [mg/L as CaCO3]	16-Jun-11	15:13	4	< 2
Conductivity [µS/cm]	16-Jun-11	15:13	16	7
Sulphate [mg/L]	22-Jun-11	15:10	3.7	0.7
Mercury [mg/L]	16-Jun-11	08:51	< 0.0001	< 0.0001
Silver [mg/L]	21-Jun-11	07:46	< 0.00001	< 0.00001
Aluminum [mg/L]	20-Jun-11	09:02	0.12	0.05
Arsenic [mg/L]	21-Jun-11	07:46	0.0003	< 0.0002
Barium [mg/L]	21-Jun-11	07:46	0.0369	0.305
Beryllium [mg/L]	21-Jun-11	07:46	0.00009	0.00005
Boron [mg/L]	21-Jun-11	07:46	0.0011	0.0008
Bismuth [mg/L]	21-Jun-11	07:46	< 0.00001	< 0.00001
Calcium [mg/L]	20-Jun-11	09:02	1.31	0.88
Cadmium [mg/L]	21-Jun-11	07:46	0.00635	0.00158
Cobalt [mg/L]	21-Jun-11	07:46	0.00103	0.000781
Chromium [mg/L]	21-Jun-11	07:46	< 0.0005	< 0.0005
Copper [mg/L]	21-Jun-11	07:46	1.60	0.123
Iron [mg/L]	20-Jun-11	09:03	0.031	0.005
Potassium [mg/L]	20-Jun-11	09:03	0.129	0.142
Lithium [mg/L]	21-Jun-11	07:46	< 0.001	< 0.001
Magnesium [mg/L]	20-Jun-11	09:03	0.060	0.021
Manganese [mg/L]	21-Jun-11	07:46	0.0392	0.0134
Molybdenum [mg/L]	21-Jun-11	07:46	0.00035	0.00033
Sodium [mg/L]	20-Jun-11	09:03	0.01	0.02
Nickel [mg/L]	21-Jun-11	07:46	0.0024	0.0024
Lead [mg/L]	21-Jun-11	07:46	0.00350	0.00075

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Project : CALR-12074-002

LR Report : **CA10064-JUN11**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk#105	6: Cyclone U/F-Desulphidized Wk#105
Antimony [mg/L]	21-Jun-11	07:46	< 0.0002	< 0.0002
Selenium [mg/L]	21-Jun-11	07:46	0.005	< 0.001
Silicon [mg/L]	20-Jun-11	09:03	0.27	0.29
Tin [mg/L]	21-Jun-11	07:46	0.00117	0.00116
Strontium [mg/L]	20-Jun-11	09:03	0.0011	0.0024
Titanium [mg/L]	21-Jun-11	07:46	< 0.0001	< 0.0001
Thallium [mg/L]	21-Jun-11	07:46	0.00012	0.00002
Uranium [mg/L]	21-Jun-11	07:46	0.000107	0.000022
Vanadium [mg/L]	21-Jun-11	07:46	< 0.00003	< 0.00003
Tungsten [mg/L]	21-Jun-11	07:46	< 0.00003	< 0.00003
Yttrium [mg/L]	21-Jun-11	07:46	0.000210	0.000048
Zinc [mg/L]	20-Jun-11	09:03	0.132	0.034

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Friday, July 08, 2011

Environmental Met
Attn : Barb Bowman

Date Rec. : 22 June 2011
LR Report: **CA11312-JUN11**
Reference: Wk#105

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk#105	6: Cyclone U/F-Desulphidized Wk#105
Sample Date & Time			14-June-11	14-June-11
Boron [mg/L]	27-Jun-11	14:14	0.0010	---
Cadmium [mg/L]	27-Jun-11	14:14	0.000149	0.000080
Cobalt [mg/L]	27-Jun-11	14:14	0.000738	---
Magnesium [mg/L]	24-Jun-11	12:29	0.008	---
Manganese [mg/L]	27-Jun-11	14:14	0.00249	0.00488
Lead [mg/L]	27-Jun-11	14:14	< 0.00002	0.00008
Tin [mg/L]	27-Jun-11	14:14	0.00120	---
Thallium [mg/L]	27-Jun-11	14:14	< 0.00002	---
Uranium [mg/L]	27-Jun-11	14:14	0.000007	0.000004
Zinc [mg/L]	27-Jun-11	14:14	0.023	---

Dianne Griffin
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Project : CALR-12074-002

Thursday, June 30, 2011

Environmental Met
Attn : Barb Bowman

Date Rec. : 21 June 2011
LR Report: **CA10104-JUN11**
Reference: Wk#106

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 106	6: Cyclone U/F-Desulphidized Wk# 106
Sample Date & Time			21-June-11	21-June-11
Hum Cell Leachate Volume [mL]	---	---	990	987
pH [units]	23-Jun-11	21:53	5.83	6.03
Alkalinity [mg/L as CaCO3]	23-Jun-11	21:53	< 2	< 2
Acidity [mg/L as CaCO3]	23-Jun-11	21:53	5	< 2
Conductivity [µS/cm]	23-Jun-11	21:53	15	6
Sulphate [mg/L]	28-Jun-11	16:17	3.8	0.7

Dianne Griffin
Project Specialist

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Project : CALR-12074-002

Friday, July 08, 2011

Environmental Met
Attn : Barb Bowman

Date Rec. : 28 June 2011
LR Report: **CA10261-JUN11**
Reference: Wk#107

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 107	6: Cyclone U/F-Desulphidized Wk# 107
Sample Date & Time			28-Jun-11	28-Jun-11
Hum Cell Leachate Volume [mL]	---	---	992	975
pH [units]	05-Jul-11	06:33	5.71	5.97
Alkalinity [mg/L as CaCO3]	05-Jul-11	06:33	< 2	< 2
Acidity [mg/L as CaCO3]	05-Jul-11	06:33	5	2
Conductivity [µS/cm]	05-Jul-11	06:33	16	6
Sulphate [mg/L]	05-Jul-11	15:57	3.7	0.7

Dianne Griffin
Project Specialist

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Project : CALR-12074-002

Monday, July 11, 2011

Environmental Met
Attn : Barb Bowman

Date Rec. : 05 July 2011
LR Report: **CA10006-JUL11**
Reference: Wk#108

Copy: #2

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 108	6: Cyclone U/F-Desulphidized Wk# 108
Sample Date & Time			05-Jul-11	05-Jul-11
Hum Cell Leachate Volume [mL]	---	---	979	988
pH [units]	07-Jul-11	09:53	5.65	6.09
Alkalinity [mg/L as CaCO3]	07-Jul-11	09:53	< 2	< 2
Acidity [mg/L as CaCO3]	07-Jul-11	09:53	5	< 2
Conductivity [µS/cm]	07-Jul-11	09:53	15	6
Sulphate [mg/L]	07-Jul-11	15:09	3.7	0.8

Brian Graham B.Sc.
Project Specialist
Environmental Services, Analytical

OnLine LIMS

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Project : CALR-12074-002

Friday, August 12, 2011

Environmental Met
Attn : Barb Bowman

Date Rec. : 12 July 2011
LR Report: **CA10047-JUL11**
Reference: Wk#109

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 109	6: Cyclone U/F-Desulphidized Wk# 109
Sample Date & Time			12-Jul-11	12-Jul-11
Hum Cell Leachate Volume [mL]	---	---	983	988
pH [units]	14-Jul-11	21:20	5.72	5.80
Alkalinity [mg/L as CaCO3]	14-Jul-11	21:20	< 2	---
Alkalinity [mg/L as CaCO3]	10-Aug-11	22:27	---	2
Acidity [mg/L as CaCO3]	14-Jul-11	21:20	4	< 2
Conductivity [µS/cm]	14-Jul-11	21:20	16	5
Sulphate [mg/L]	25-Jul-11	19:57	4.0	0.6

Dianne Griffin
Project Specialist

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Project : CALR-12074-002

Wednesday, August 10, 2011

Environmental Met
Attn : Barb Bowman

Date Rec. : 19 July 2011
LR Report: **CA10093-JUL11**
Reference: Wk#110

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 110	6: Cyclone U/F-Desulphidized Wk# 110
Sample Date & Time			19-Jul-11	19-Jul-11
Hum Cell Leachate Volume [mL]	---	---	989	989
pH [units]	20-Jul-11	15:05	5.86	6.02
Alkalinity [mg/L as CaCO3]	20-Jul-11	15:05	< 2	< 2
Acidity [mg/L as CaCO3]	20-Jul-11	15:05	4	< 2
Conductivity [µS/cm]	20-Jul-11	15:05	13	6
Sulphate [mg/L]	29-Jul-11	13:31	3.7	0.8
Mercury [mg/L]	21-Jul-11	14:35	< 0.0001	< 0.0001
Silver [mg/L]	22-Jul-11	10:35	< 0.00001	< 0.00001
Aluminum [mg/L]	21-Jul-11	13:28	0.09	0.02
Arsenic [mg/L]	22-Jul-11	10:35	< 0.0002	< 0.0002
Barium [mg/L]	22-Jul-11	10:35	0.0387	0.283
Beryllium [mg/L]	22-Jul-11	10:35	0.00008	0.00005
Boron [mg/L]	22-Jul-11	10:35	< 0.0002	< 0.0002
Bismuth [mg/L]	22-Jul-11	10:35	< 0.00001	< 0.00001
Calcium [mg/L]	21-Jul-11	13:28	1.11	0.80
Cadmium [mg/L]	22-Jul-11	10:35	0.000305	0.000096
Cobalt [mg/L]	22-Jul-11	10:35	0.000663	0.000714
Chromium [mg/L]	22-Jul-11	10:35	< 0.0005	< 0.0005
Copper [mg/L]	22-Jul-11	10:35	1.61	0.119
Iron [mg/L]	21-Jul-11	13:28	< 0.002	0.002
Potassium [mg/L]	21-Jul-11	13:28	0.130	0.141
Lithium [mg/L]	22-Jul-11	10:35	< 0.001	< 0.001
Magnesium [mg/L]	21-Jul-11	13:28	0.008	0.014
Manganese [mg/L]	22-Jul-11	10:35	0.00355	0.00407
Molybdenum [mg/L]	22-Jul-11	10:35	0.00038	0.00033
Sodium [mg/L]	21-Jul-11	13:28	< 0.01	0.02
Nickel [mg/L]	22-Jul-11	10:35	0.0010	0.0020
Lead [mg/L]	22-Jul-11	10:35	---	0.00005

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Project : CALR-12074-002

LR Report : **CA10093-JUL11**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 110	6: Cyclone U/F-Desulphidized Wk# 110
Lead [mg/L]	10-Aug-11	12:46	< 0.00002	---
Antimony [mg/L]	22-Jul-11	10:35	< 0.0002	< 0.0002
Selenium [mg/L]	22-Jul-11	10:35	< 0.001	< 0.001
Silicon [mg/L]	21-Jul-11	13:28	0.23	0.27
Tin [mg/L]	22-Jul-11	10:35	0.00100	0.00102
Strontium [mg/L]	21-Jul-11	13:28	0.0009	0.0021
Titanium [mg/L]	22-Jul-11	10:35	< 0.0001	< 0.0001
Thallium [mg/L]	22-Jul-11	10:35	< 0.00002	< 0.00002
Uranium [mg/L]	22-Jul-11	10:35	0.000002	< 0.000001
Vanadium [mg/L]	22-Jul-11	10:35	< 0.00003	0.00003
Tungsten [mg/L]	22-Jul-11	10:35	< 0.00003	< 0.00003
Yttrium [mg/L]	22-Jul-11	10:35	0.000026	0.000004
Zinc [mg/L]	21-Jul-11	13:28	0.032	0.019

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Thursday, August 04, 2011

Environmental Met
Attn : Barb Bowman

Date Rec. : 26 July 2011
LR Report: **CA10135-JUL11**
Reference: Wk#111

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 111	6: Cyclone U/F-Desulphidized Wk# 111
Sample Date & Time			26-Jul-11	26-Jul-11
Hum Cell Leachate Volume [mL]	---	---	942	988
pH [units]	28-Jul-11	12:52	5.76	6.09
Alkalinity [mg/L as CaCO3]	28-Jul-11	12:52	< 2	< 2
Acidity [mg/L as CaCO3]	28-Jul-11	12:52	3	< 2
Conductivity [µS/cm]	28-Jul-11	12:52	15	7
Sulphate [mg/L]	04-Aug-11	11:30	3.2	0.6

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Friday, August 12, 2011

Environmental Met
Attn : Barb Bowman

Date Rec. : 02 August 2011
LR Report: **CA10009-AUG11**
Reference: Wk#112

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 112	6: Cyclone U/F-Desulphidized Wk# 112
Sample Date & Time			02-Aug-11	02-Aug-11
Hum Cell Leachate Volume [mL]	---	---	994	983
pH [units]	03-Aug-11	21:46	5.80	5.97
Alkalinity [mg/L as CaCO3]	03-Aug-11	21:46	< 2	< 2
Acidity [mg/L as CaCO3]	03-Aug-11	21:46	3	< 2
Conductivity [µS/cm]	03-Aug-11	21:46	14	6
Sulphate [mg/L]	10-Aug-11	17:02	4.6	1.1

Dianne Griffin
Project Specialist

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Project : CALR-12074-002

Thursday, August 18, 2011

Environmental Met
Attn : Barb Bowman

Date Rec. : 09 August 2011
LR Report: **CA10056-AUG11**
Reference: Wk#113

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk#113	6: Cyclone U/F-Desulphidized Wk#113
Sample Date & Time			09-Aug-11	09-Aug-11
Hum Cell Leachate Volume [mL]	---	---	977	1000
pH [units]	11-Aug-11	19:54	5.86	6.09
Alkalinity [mg/L as CaCO3]	11-Aug-11	19:54	< 2	< 2
Acidity [mg/L as CaCO3]	11-Aug-11	19:54	3	< 2
Conductivity [µS/cm]	11-Aug-11	19:54	10	7
Sulphate [mg/L]	18-Aug-11	16:34	3.6	0.8

Dianne Griffin
Project Specialist

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Project : CALR-12074-002

Tuesday, August 30, 2011

Environmental Met
Attn : Barb Bowman

Date Rec. : 16 August 2011
LR Report: **CA11088-AUG11**
Reference: Wk#114

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 114	6: Cyclone U/F-Desulphidized Wk# 114
Sample Date & Time			16-Aug-11	16-Aug-11
Hum Cell Leachate Volume [mL]	---	---	970	986
pH [units]	17-Aug-11	15:37	5.77	6.02
Alkalinity [mg/L as CaCO3]	17-Aug-11	15:37	< 2	< 2
Acidity [mg/L as CaCO3]	17-Aug-11	15:37	4	3
Conductivity [µS/cm]	17-Aug-11	15:37	12	5
Sulphate [mg/L]	24-Aug-11	16:08	3.7	0.6

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Wednesday, August 31, 2011

Environmental Met
Attn : Barb Bowman

Date Rec. : 23 August 2011
LR Report: **CA11172-AUG11**
Reference: Wk#115

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk#115	6: Cyclone U/F-Desulphidized Wk#115
Sample Date & Time			23-Aug-11	23-Aug-11
Hum Cell Leachate Volume [mL]	---	---	986	989
pH [units]	24-Aug-11	10:01	5.72	6.24
Alkalinity [mg/L as CaCO3]	24-Aug-11	10:01	< 2	2
Acidity [mg/L as CaCO3]	24-Aug-11	10:01	4	< 2
Conductivity [µS/cm]	24-Aug-11	10:01	14	7
Sulphate [mg/L]	31-Aug-11	10:34	3.1	0.6
Mercury [mg/L]	25-Aug-11	15:46	< 0.0001	< 0.0001
Silver [mg/L]	29-Aug-11	09:28	< 0.00001	< 0.00001
Aluminum [mg/L]	26-Aug-11	09:06	0.09	0.03
Arsenic [mg/L]	29-Aug-11	09:28	< 0.0002	< 0.0002
Barium [mg/L]	29-Aug-11	09:28	0.0377	0.269
Beryllium [mg/L]	29-Aug-11	09:28	0.00005	0.00002
Boron [mg/L]	29-Aug-11	09:28	0.0006	0.0005
Bismuth [mg/L]	29-Aug-11	09:28	< 0.00001	< 0.00001
Calcium [mg/L]	26-Aug-11	09:07	1.13	0.75
Cadmium [mg/L]	29-Aug-11	09:28	0.000299	0.000129
Cobalt [mg/L]	29-Aug-11	09:28	0.000564	0.000623
Chromium [mg/L]	29-Aug-11	09:28	< 0.0005	< 0.0005
Copper [mg/L]	29-Aug-11	09:28	1.50	0.131
Iron [mg/L]	26-Aug-11	09:07	< 0.002	< 0.002
Potassium [mg/L]	26-Aug-11	09:07	0.121	0.129
Lithium [mg/L]	29-Aug-11	09:28	< 0.001	< 0.001
Magnesium [mg/L]	26-Aug-11	09:07	0.006	0.011
Manganese [mg/L]	29-Aug-11	09:28	0.00343	0.00398
Molybdenum [mg/L]	29-Aug-11	09:28	0.00040	0.00036
Sodium [mg/L]	26-Aug-11	09:07	< 0.01	0.02
Nickel [mg/L]	29-Aug-11	09:28	0.0009	0.0019
Lead [mg/L]	29-Aug-11	09:28	0.00031	0.00024
Antimony [mg/L]	29-Aug-11	09:28	0.0002	0.0002
Selenium [mg/L]	29-Aug-11	09:28	< 0.001	< 0.001
Silicon [mg/L]	26-Aug-11	09:07	0.20	0.20
Tin [mg/L]	29-Aug-11	09:28	0.00095	0.00107

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Project : CALR-12074-002

LR Report : **CA11172-AUG11**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk#115	6: Cyclone U/F-Desulphidized Wk#115
Strontium [mg/L]	26-Aug-11	09:07	0.0011	0.0019
Titanium [mg/L]	29-Aug-11	09:28	< 0.0001	< 0.0001
Thallium [mg/L]	29-Aug-11	09:28	< 0.00002	< 0.00002
Uranium [mg/L]	29-Aug-11	09:28	< 0.000001	< 0.000001
Vanadium [mg/L]	29-Aug-11	09:28	< 0.00003	0.00003
Tungsten [mg/L]	29-Aug-11	09:28	< 0.00003	< 0.00003
Yttrium [mg/L]	29-Aug-11	09:28	0.000040	0.000005
Zinc [mg/L]	26-Aug-11	09:07	0.032	0.018

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Wednesday, September 07, 2011

Environmental Met
Attn : Barb Bowman

Date Rec. : 30 August 2011
LR Report: **CA10275-AUG11**
Reference: Wk#116

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 116	6: Cyclone U/F-Desulphidized Wk# 116
Sample Date & Time			30-Aug-11	30-Aug-11
Hum Cell Leachate Volume [mL]	---	---	977	980
pH [units]	31-Aug-11	09:48	5.74	6.02
Alkalinity [mg/L as CaCO3]	31-Aug-11	09:48	< 2	< 2
Acidity [mg/L as CaCO3]	31-Aug-11	09:48	3	< 2
Conductivity [µS/cm]	31-Aug-11	09:48	15	6
Sulphate [mg/L]	07-Sep-11	16:17	3.2	0.6

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Wednesday, September 14, 2011

Environmental Met
Attn : Barb Bowman

Date Rec. : 06 September 2011
LR Report: **CA10008-SEP11**
Reference: Wk#117

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 117	6: Cyclone U/F-Desulphidized Wk# 117
Sample Date & Time			06-Sept-11	06-Sept-11
Hum Cell Leachate Volume [mL]	---	---	966	975
pH [units]	09-Sep-11	10:43	6.03	6.16
Alkalinity [mg/L as CaCO3]	09-Sep-11	10:43	< 2	< 2
Acidity [mg/L as CaCO3]	09-Sep-11	10:43	4	2
Conductivity [µS/cm]	09-Sep-11	10:43	40	38
Sulphate [mg/L]	14-Sep-11	09:44	4.5	1.0

Dianne Griffin
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Project : CALR-12074-002

Thursday, September 29, 2011

Environmental Met
Attn : Barb Bowman

Date Rec. : 21 September 2011
LR Report: **CA10473-SEP11**
Reference: Wk#117

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 117	6: Cyclone U/F-Desulphidized Wk# 117
Sample Date & Time			06-Sept-11	06-Sept-11
Hum Cell Leachate Volume [mL]	---	---	966	975
pH [units]	27-Sep-11	20:14	5.79	---
Conductivity [µS/cm]	27-Sep-11	20:14	11	2

Dianne Griffin
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Project : CALR-12074-002

Wednesday, September 21, 2011

Environmental Met
Attn : Barb Bowman

Date Rec. : 13 September 2011
LR Report: **CA10052-SEP11**
Reference: Wk#118

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 118	6: Cyclone U/F-Desulphidized Wk# 118
Sample Date & Time			13-Sept-11	13-Sept-11
Hum Cell Leachate Volume [mL]	---	---	964	981
pH [units]	15-Sep-11	11:35	5.87	6.01
Alkalinity [mg/L as CaCO3]	15-Sep-11	11:35	< 2	< 2
Acidity [mg/L as CaCO3]	15-Sep-11	11:35	2	< 2
Conductivity [µS/cm]	15-Sep-11	11:35	14	6
Sulphate [mg/L]	21-Sep-11	11:55	2.8	0.6

Dianne Griffin
Project Specialist

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Project : CALR-12074-002

Thursday, October 06, 2011

Environmental Met
Attn : Barb Bowman

Date Rec. : 20 September 2011
LR Report: **CA10170-SEP11**
Reference: Wk#119

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 119	6: Cyclone U/F-Desulphidized Wk# 119
Sample Date & Time			20-Sep-11	20-Sep-11
Hum Cell Leachate Volume [mL]	---	---	969	988
pH [units]	04-Oct-11	15:10	5.75	5.96
Alkalinity [mg/L as CaCO3]	22-Sep-11	08:22	< 2	< 2
Acidity [mg/L as CaCO3]	22-Sep-11	08:22	3	2
Conductivity [µS/cm]	22-Sep-11	08:22	15	7
Sulphate [mg/L]	29-Sep-11	12:39	4.3	1.0

Dianne Griffin
Project Specialist

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Project : CALR-12074-002

Friday, October 07, 2011

Environmental Met
Attn : Barb Bowman

Date Rec. : 27 September 2011
LR Report: **CA10304-SEP11**
Reference: Wk#120

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk#120	6: Cyclone U/F-Desulphidized Wk# 120
Sample Date & Time			27-Sep-11	27-Sep-11
Hum Cell Leachate Volume [mL]	---	---	984	992
pH [units]	29-Sep-11	08:37	5.74	6.02
Alkalinity [mg/L as CaCO3]	29-Sep-11	08:37	< 2	< 2
Acidity [mg/L as CaCO3]	29-Sep-11	08:37	< 2	< 2
Conductivity [µS/cm]	29-Sep-11	08:37	3	2
Sulphate [mg/L]	04-Oct-11	15:15	4.4	1.0
Mercury [mg/L]	29-Sep-11	19:01	< 0.0001	< 0.0001
Silver [mg/L]	04-Oct-11	18:29	< 0.00001	< 0.00001
Aluminum [mg/L]	03-Oct-11	10:28	0.07	0.02
Arsenic [mg/L]	04-Oct-11	18:29	< 0.0002	< 0.0002
Barium [mg/L]	04-Oct-11	18:29	0.0383	0.279
Beryllium [mg/L]	04-Oct-11	18:29	0.00005	0.00004
Boron [mg/L]	04-Oct-11	18:29	< 0.0002	< 0.0002
Bismuth [mg/L]	04-Oct-11	18:29	< 0.00001	< 0.00001
Calcium [mg/L]	03-Oct-11	10:28	0.90	0.66
Cadmium [mg/L]	04-Oct-11	18:29	0.000110	0.000076
Cobalt [mg/L]	04-Oct-11	18:29	0.000443	0.000529
Chromium [mg/L]	04-Oct-11	18:29	< 0.0005	< 0.0005
Copper [mg/L]	04-Oct-11	18:29	1.43	0.136
Iron [mg/L]	03-Oct-11	10:28	< 0.002	< 0.002
Potassium [mg/L]	03-Oct-11	10:28	0.102	0.118
Lithium [mg/L]	04-Oct-11	18:29	< 0.001	< 0.001
Magnesium [mg/L]	03-Oct-11	10:28	0.002	0.007
Manganese [mg/L]	04-Oct-11	18:29	0.00160	0.00346
Molybdenum [mg/L]	04-Oct-11	18:29	0.00038	0.00038
Sodium [mg/L]	03-Oct-11	10:28	< 0.01	0.03
Nickel [mg/L]	04-Oct-11	18:29	0.0007	0.0017
Lead [mg/L]	04-Oct-11	18:29	< 0.00002	0.00006

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Project : CALR-12074-002

LR Report : **CA10304-SEP11**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk#120	6: Cyclone U/F-Desulphidized Wk# 120
Antimony [mg/L]	04-Oct-11	18:29	0.0002	0.0003
Selenium [mg/L]	04-Oct-11	18:29	< 0.001	< 0.001
Silicon [mg/L]	03-Oct-11	10:28	0.20	0.22
Tin [mg/L]	04-Oct-11	18:29	0.00103	0.00119
Strontium [mg/L]	03-Oct-11	10:28	0.0005	0.0015
Titanium [mg/L]	04-Oct-11	18:29	< 0.0001	< 0.0001
Thallium [mg/L]	04-Oct-11	18:29	< 0.00002	< 0.00002
Uranium [mg/L]	04-Oct-11	18:29	0.000004	0.000001
Vanadium [mg/L]	04-Oct-11	18:29	< 0.00003	0.00004
Tungsten [mg/L]	04-Oct-11	18:29	< 0.00003	< 0.00003
Yttrium [mg/L]	04-Oct-11	18:29	0.000024	0.000006
Zinc [mg/L]	03-Oct-11	10:28	0.013	0.014

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Thursday, October 20, 2011

Environmental Met
Attn : Barb Bowman

Date Rec. : 04 October 2011
LR Report: **CA10033-OCT11**
Reference: Wk#121

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 121	6: Cyclone U/F-Desulphidized Wk# 121
Sample Date & Time			04-Oct-11	04-Oct-11
Hum Cell Leachate Volume [mL]	---	---	977	993
pH [units]	10-Oct-11	19:31	5.50	6.00
Alkalinity [mg/L as CaCO3]	10-Oct-11	19:31	< 2	< 2
Acidity [mg/L as CaCO3]	10-Oct-11	19:31	4	< 2
Conductivity [µS/cm]	10-Oct-11	19:31	15	2
Sulphate [mg/L]	11-Oct-11	11:00	2.9	0.6

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Tuesday, November 01, 2011

Environmental Met
Attn : Barb Bowman

Date Rec. : 11 October 2011
LR Report: **CA10086-OCT11**
Reference: Wk#122

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk#122	6: Cyclone U/F-Desulphidized Wk#122
Sample Date & Time			11-Oct-11	11-Oct-11
Hum Cell Leachate Volume [mL]	---	---	972	935
pH [units]	01-Nov-11	13:11	5.63	6.01
Alkalinity [mg/L as CaCO3]	01-Nov-11	13:12	---	< 2
Alkalinity [mg/L as CaCO3]	01-Nov-11	13:12	< 2	---
Acidity [mg/L as CaCO3]	01-Nov-11	13:12	< 2	< 2
Conductivity [µS/cm]	01-Nov-11	13:12	---	15
Conductivity [µS/cm]	01-Nov-11	13:12	13	---
Sulphate [mg/L]	18-Oct-11	14:47	4.0	0.7

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Monday, October 24, 2011

Environmental Met
Attn : Barb Bowman

Date Rec. : 18 October 2011
LR Report: **CA10137-OCT11**
Reference: Wk#123

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 123	6: Cyclone U/F-Desulphidized Wk# 123
Sample Date & Time			18-Oct-11	18-Oct-11
Hum Cell Leachate Volume [mL]	---	---	975	1009
pH [units]	20-Oct-11	10:47	5.56	6.04
Alkalinity [mg/L as CaCO3]	20-Oct-11	10:47	< 2	< 2
Acidity [mg/L as CaCO3]	20-Oct-11	10:47	5	< 2
Conductivity [µS/cm]	20-Oct-11	10:47	20	8
Sulphate [mg/L]	20-Oct-11	16:43	2.8	0.6

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Tuesday, November 01, 2011

Environmental Met
Attn : Barb Bowman

Date Rec. : 25 October 2011
LR Report: **CA11234-OCT11**
Reference: Wk#124

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk#124	6: Cyclone U/F-Desulphidized Wk#124
Sample Date & Time			25-Oct-11	25-Oct-11
Hum Cell Leachate Volume [mL]	---	---	974	959
pH [units]	28-Oct-11	08:58	5.75	5.94
Alkalinity [mg/L as CaCO3]	28-Oct-11	08:58	< 2	< 2
Acidity [mg/L as CaCO3]	28-Oct-11	08:58	3	< 2
Conductivity [µS/cm]	28-Oct-11	08:58	10	2
Sulphate [mg/L]	27-Oct-11	16:04	4.9	1.3

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Tuesday, November 08, 2011

Environmental Met
Attn : Barb Bowman

Date Rec. : 01 November 2011
LR Report: **CA10008-NOV11**
Reference: Wk#125

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk#125	6: Cyclone U/F-Desulphidized Wk#125
Sample Date & Time			01-Nov-11	01-Nov-11
Hum Cell Leachate Volume [mL]	---	---	981	1020
pH [units]	07-Nov-11	12:37	5.86	6.00
Alkalinity [mg/L as CaCO3]	07-Nov-11	12:37	< 2	< 2
Acidity [mg/L as CaCO3]	07-Nov-11	12:37	3	< 2
Conductivity [µS/cm]	07-Nov-11	12:37	12	3
Sulphate [mg/L]	08-Nov-11	09:13	3.2	0.7
Mercury [mg/L]	03-Nov-11	16:16	< 0.0001	< 0.0001
Silver [mg/L]	04-Nov-11	13:58	< 0.00001	< 0.00001
Aluminum [mg/L]	04-Nov-11	12:44	0.09	0.03
Arsenic [mg/L]	04-Nov-11	13:58	< 0.0002	0.0002
Barium [mg/L]	04-Nov-11	13:58	0.0353	0.274
Beryllium [mg/L]	04-Nov-11	13:58	0.00006	0.00004
Boron [mg/L]	04-Nov-11	13:58	< 0.0002	< 0.0002
Bismuth [mg/L]	04-Nov-11	13:58	< 0.00001	< 0.00001
Calcium [mg/L]	04-Nov-11	12:44	1.06	0.72
Cadmium [mg/L]	04-Nov-11	13:58	0.000107	0.000073
Cobalt [mg/L]	04-Nov-11	13:58	0.000479	0.000519
Chromium [mg/L]	04-Nov-11	13:58	< 0.0005	< 0.0005
Copper [mg/L]	04-Nov-11	13:58	1.51	0.135
Iron [mg/L]	04-Nov-11	12:44	< 0.002	< 0.002
Potassium [mg/L]	04-Nov-11	12:44	0.117	0.132
Lithium [mg/L]	04-Nov-11	13:58	< 0.001	< 0.001
Magnesium [mg/L]	04-Nov-11	12:44	0.007	0.011
Manganese [mg/L]	04-Nov-11	13:58	0.00167	0.00329
Molybdenum [mg/L]	04-Nov-11	13:58	0.00037	0.00035
Sodium [mg/L]	04-Nov-11	12:44	0.01	0.02
Nickel [mg/L]	04-Nov-11	13:58	0.0009	0.0019
Lead [mg/L]	04-Nov-11	13:58	< 0.00002	< 0.00002
Antimony [mg/L]	04-Nov-11	13:58	< 0.0002	< 0.0002
Selenium [mg/L]	04-Nov-11	13:58	< 0.001	< 0.001
Silicon [mg/L]	04-Nov-11	12:44	0.23	0.22
Tin [mg/L]	04-Nov-11	13:58	0.00098	0.00112

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Project : CALR-12074-002

LR Report : **CA10008-NOV11**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk#125	6: Cyclone U/F-Desulphidized Wk#125
Strontium [mg/L]	04-Nov-11	12:44	0.0007	0.0017
Titanium [mg/L]	04-Nov-11	13:58	< 0.0001	< 0.0001
Thallium [mg/L]	04-Nov-11	13:58	< 0.00002	< 0.00002
Uranium [mg/L]	04-Nov-11	13:58	0.000006	0.000001
Vanadium [mg/L]	04-Nov-11	13:58	< 0.00003	0.00004
Tungsten [mg/L]	04-Nov-11	13:58	0.00006	< 0.00003
Yttrium [mg/L]	04-Nov-11	13:58	0.000028	0.000002
Zinc [mg/L]	04-Nov-11	12:45	0.026	0.016

Dianne Griffin
Project Specialist

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Project : CALR-12074-002

Friday, November 18, 2011

Environmental Met
Attn : Barb Bowman

Date Rec. : 08 November 2011
LR Report: **CA10079-NOV11**
Reference: Wk#126

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 126	6: Cyclone U/F-Desulphidized Wk# 126
Sample Date & Time			08-Nov-11	08-Nov-11
Hum Cell Leachate Volume [mL]	---	---	972	981
pH [units]	10-Nov-11	09:34	5.70	5.97
Alkalinity [mg/L as CaCO3]	10-Nov-11	09:34	< 2	< 2
Acidity [mg/L as CaCO3]	10-Nov-11	09:34	4	< 2
Conductivity [µS/cm]	10-Nov-11	09:34	9	< 2
Sulphate [mg/L]	17-Nov-11	16:44	3.0	0.6

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Monday, November 28, 2011

Environmental Met
Attn : Barb Bowman

Date Rec. : 15 November 2011
LR Report: **CA10139-NOV11**
Reference: Wk#127

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk#127	6: Cyclone U/F-Desulphidized Wk#127
Sample Date & Time			15-Nov-11	15-Nov-11
Hum Cell Leachate Volume [mL]	---	---	982	938
pH [units]	17-Nov-11	14:09	5.73	5.90
Alkalinity [mg/L as CaCO3]	17-Nov-11	14:09	< 2	< 2
Acidity [mg/L as CaCO3]	17-Nov-11	14:09	4	< 2
Conductivity [µS/cm]	17-Nov-11	14:09	12	2
Sulphate [mg/L]	25-Nov-11	17:01	4.0	0.7

Dianne Griffin
Project Specialist

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Project : CALR-12074-002

Tuesday, November 29, 2011

Environmental Met
Attn : Barb Bowman

Date Rec. : 22 November 2011
LR Report: **CA10196-NOV11**
Reference: Wk#128

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 128	6: Cyclone U/F-Desulphidized Wk# 128
Sample Date & Time			22-Nov-11	22-Nov-11
Hum Cell Leachate Volume [mL]	---	---	1003	990
pH [units]	23-Nov-11	15:44	5.54	5.79
Alkalinity [mg/L as CaCO3]	23-Nov-11	15:44	< 2	< 2
Acidity [mg/L as CaCO3]	23-Nov-11	15:44	6	4
Conductivity [µS/cm]	23-Nov-11	15:44	3	2
Sulphate [mg/L]	29-Nov-11	13:46	3.1	0.7

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Thursday, December 08, 2011

Environmental Met
Attn : Barb Bowman

Date Rec. : 29 November 2011
LR Report: **CA11787-NOV11**
Reference: Wk#129

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk#129	6: Cyclone U/F-Desulphidized Wk#129
Sample Date & Time			29-Nov-11	29-Nov-11
Hum Cell Leachate Volume [mL]	---	---	966	1009
pH [units]	07-Dec-11	14:41	5.61	5.93
Alkalinity [mg/L as CaCO3]	07-Dec-11	14:41	< 2	< 2
Acidity [mg/L as CaCO3]	07-Dec-11	14:41	5	3
Conductivity [µS/cm]	07-Dec-11	14:41	14	7
Sulphate [mg/L]	05-Dec-11	11:33	3.2	0.6

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Wednesday, December 14, 2011

Environmental Met
Attn : Barb Bowman

Date Rec. : 06 December 2011
LR Report: **CA10007-DEC11**
Reference: Wk#130

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 130	6: Cyclone U/F-Desulphidized Wk# 130
Sample Date & Time			06-Dec-11	06-Dec-11
Hum Cell Leachate Volume [mL]	---	---	983	992
pH [units]	07-Dec-11	14:52	5.80	5.96
Alkalinity [mg/L as CaCO3]	07-Dec-11	14:52	< 2	< 2
Acidity [mg/L as CaCO3]	07-Dec-11	14:52	4	< 2
Conductivity [µS/cm]	07-Dec-11	14:52	3	2
Sulphate [mg/L]	13-Dec-11	16:02	4.2	0.6
Mercury [mg/L]	08-Dec-11	14:17	< 0.0001	< 0.0001
Silver [mg/L]	10-Dec-11	19:34	< 0.00001	< 0.00001
Aluminum [mg/L]	12-Dec-11	08:22	0.09	0.04
Arsenic [mg/L]	10-Dec-11	19:34	< 0.0002	0.0003
Barium [mg/L]	10-Dec-11	19:34	0.0304	0.247
Beryllium [mg/L]	10-Dec-11	19:34	0.00009	0.00005
Boron [mg/L]	10-Dec-11	19:34	< 0.0002	< 0.0002
Bismuth [mg/L]	10-Dec-11	19:34	< 0.00001	< 0.00001
Calcium [mg/L]	12-Dec-11	08:22	0.97	0.71
Cadmium [mg/L]	10-Dec-11	19:35	0.000113	0.000068
Cobalt [mg/L]	10-Dec-11	19:35	0.000530	0.000538
Chromium [mg/L]	10-Dec-11	19:35	< 0.0005	< 0.0005
Copper [mg/L]	10-Dec-11	19:35	1.58	0.150
Iron [mg/L]	12-Dec-11	08:22	< 0.003	< 0.003
Potassium [mg/L]	12-Dec-11	08:22	0.108	0.120
Lithium [mg/L]	10-Dec-11	19:35	< 0.001	< 0.001
Magnesium [mg/L]	12-Dec-11	08:22	0.005	0.008
Manganese [mg/L]	10-Dec-11	19:35	0.00170	0.00296
Molybdenum [mg/L]	10-Dec-11	19:35	0.00041	0.00044
Sodium [mg/L]	12-Dec-11	08:22	< 0.01	< 0.01
Nickel [mg/L]	10-Dec-11	19:35	0.0011	0.0021
Lead [mg/L]	10-Dec-11	19:35	< 0.00002	< 0.00002

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Project : CALR-12074-002

LR Report : **CA10007-DEC11**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 130	6: Cyclone U/F-Desulphidized Wk# 130
Antimony [mg/L]	10-Dec-11	19:35	< 0.0002	< 0.0002
Selenium [mg/L]	10-Dec-11	19:35	< 0.001	< 0.001
Silicon [mg/L]	12-Dec-11	08:23	0.18	0.19
Tin [mg/L]	10-Dec-11	19:35	0.00122	0.00112
Strontium [mg/L]	12-Dec-11	08:23	0.0003	0.0012
Titanium [mg/L]	10-Dec-11	19:35	< 0.0001	< 0.0001
Thallium [mg/L]	10-Dec-11	19:35	< 0.00002	< 0.00002
Uranium [mg/L]	10-Dec-11	19:35	0.000006	0.000002
Vanadium [mg/L]	10-Dec-11	19:35	< 0.00003	< 0.00003
Tungsten [mg/L]	10-Dec-11	19:35	< 0.00003	< 0.00003
Yttrium [mg/L]	10-Dec-11	19:35	0.000025	0.000006
Zinc [mg/L]	12-Dec-11	08:23	0.024	0.016

Dianne Griffin
Project Specialist

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Project : CALR-12074-002

Wednesday, January 11, 2012

Environmental Met
Attn : Barb Bowman

Date Rec. : 09 January 2012
LR Report: **CA14270-JAN12**
Reference: Wk#130

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Sample ID	Sample Date & Time	Conductivity µS/cm
3: Analysis Approval Date		10-Jan-12
4: Analysis Approval Time		14:46
5: Cyclone U/F-Untreated Wk# 130	06-Dec-11	14

Dianne Griffin
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Project : CALR-12074-002

Wednesday, December 21, 2011

Environmental Met
Attn : Barb Bowman

Date Rec. : 13 December 2011
LR Report: **CA10069-DEC11**
Reference: Wk#131

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk#131	6: Cyclone U/F-Desulphidized Wk#131
Sample Date & Time			13-Dec-11	13-Dec-11
Hum Cell Leachate Volume [mL]	---	---	985	988
pH [units]	14-Dec-11	12:03	6.09	6.00
Alkalinity [mg/L as CaCO3]	14-Dec-11	12:03	< 2	< 2
Acidity [mg/L as CaCO3]	14-Dec-11	12:03	2	< 2
Conductivity [µS/cm]	14-Dec-11	12:03	3	2
Sulphate [mg/L]	20-Dec-11	15:46	3.3	0.6

Dianne Griffin
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Project : CALR-12074-002

Wednesday, January 11, 2012

Environmental Met
Attn : Barb Bowman

Date Rec. : 09 January 2012
LR Report: **CA14271-JAN12**
Reference: Wk#131

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Sample ID	Sample Date & Time	pH units	Conductivity µS/cm
3: Analysis Approval Date		10-Jan-12	10-Jan-12
4: Analysis Approval Time		14:47	14:47
5: Cyclone U/F-Untreated Wk#131	13-Dec-11	5.69	14

Dianne Griffin
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Project : CALR-12074-002

Thursday, December 29, 2011

Environmental Met
Attn : Barb Bowman

Date Rec. : 20 December 2011
LR Report: **CA11043-DEC11**
Reference: Wk#132

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk#132	6: Cyclone U/F-Desulphidized Wk#132
Sample Date & Time			20-Dec-11	20-Dec-11
Hum Cell Leachate Volume [mL]	---	---	969	989
pH [units]	29-Dec-11	13:17	5.32	6.24
Alkalinity [mg/L as CaCO3]	29-Dec-11	13:17	3	3
Acidity [mg/L as CaCO3]	29-Dec-11	13:17	< 2	< 2
Conductivity [µS/cm]	29-Dec-11	13:17	23	19
Sulphate [mg/L]	28-Dec-11	13:44	3.4	0.7

Dianne Griffin
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Project : CALR-12074-002

Wednesday, January 11, 2012

Environmental Met
Attn : Barb Bowman

Date Rec. : 09 January 2012
LR Report: **CA14272-JAN12**
Reference: Wk#132

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Sample ID	Sample Date & Time	pH units	Conductivity µS/cm
3: Analysis Approval Date		10-Jan-12	10-Jan-12
4: Analysis Approval Time		14:47	14:47
5: Cyclone U/F-Untreated Wk#132	20-Dec-11	5.90	---
6: Cyclone U/F-Desulphidized Wk#132	20-Dec-11	5.89	6

Dianne Griffin
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Project : CALR-12074-002

Wednesday, January 11, 2012

Environmental Met
Attn : Barb Bowman

Date Rec. : 28 December 2011
LR Report: **CA10266-DEC11**
Reference: Wk#133

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk#133	6: Cyclone U/F-Desulphidized Wk#133
Sample Date & Time			28-Dec-11	28-Dec-11
Hum Cell Leachate Volume [mL]	---	---	971	994
pH [units]	03-Jan-12	10:16	5.81	5.97
Alkalinity [mg/L as CaCO3]	03-Jan-12	10:16	< 2	< 2
Acidity [mg/L as CaCO3]	03-Jan-12	10:16	3	< 2
Conductivity [µS/cm]	03-Jan-12	10:16	15	8
Sulphate [mg/L]	04-Jan-12	14:53	4.0	0.6

Dianne Griffin
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Project : CALR-12074-002

Wednesday, January 11, 2012

Environmental Met
Attn : Barb Bowman

Date Rec. : 03 January 2012
LR Report: **CA10016-JAN12**
Reference: Wk# 134

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 134	6: Cyclone U/F-Desulphidized Wk# 134
Sample Date & Time			03-Jan-12	03-Jan-12
Hum Cell Leachate Volume [mL]	---	---	993	996
pH [units]	04-Jan-12	15:08	5.78	6.03
Alkalinity [mg/L as CaCO3]	04-Jan-12	15:08	< 2	< 2
Acidity [mg/L as CaCO3]	04-Jan-12	15:08	4	< 2
Conductivity [µS/cm]	04-Jan-12	15:08	12	2
Sulphate [mg/L]	06-Jan-12	13:17	3.7	0.6

Dianne Griffin
Project Specialist

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Project : CALR-12074-002

Wednesday, January 18, 2012

Environmental Met
Attn : Barb Bowman

Date Rec. : 10 January 2012
LR Report: **CA10099-JAN12**
Reference: Wk#135

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 135	6: Cyclone U/F-Desulphidized Wk# 135
Sample Date & Time			10-Jan-12	10-Jan-12
Hum Cell Leachate Volume [mL]	---	---	962	960
pH [units]	11-Jan-12	15:34	5.67	6.10
Alkalinity [mg/L as CaCO3]	11-Jan-12	15:34	< 2	< 2
Acidity [mg/L as CaCO3]	11-Jan-12	15:34	4	< 2
Conductivity [µS/cm]	11-Jan-12	15:34	15	6
Sulphate [mg/L]	11-Jan-12	21:03	3.5	0.7
Mercury [mg/L]	12-Jan-12	18:30	< 0.0001	< 0.0001
Silver [mg/L]	12-Jan-12	17:34	< 0.00001	< 0.00001
Aluminum [mg/L]	16-Jan-12	09:12	0.10	0.03
Arsenic [mg/L]	12-Jan-12	17:34	0.0002	0.0003
Barium [mg/L]	12-Jan-12	17:34	0.0329	0.246
Beryllium [mg/L]	12-Jan-12	17:34	0.00007	0.00004
Boron [mg/L]	12-Jan-12	17:34	< 0.0002	< 0.0002
Bismuth [mg/L]	12-Jan-12	17:34	< 0.00001	< 0.00001
Calcium [mg/L]	16-Jan-12	09:13	0.97	0.67
Cadmium [mg/L]	12-Jan-12	17:34	0.000164	0.000094
Cobalt [mg/L]	12-Jan-12	17:34	0.000516	0.000467
Chromium [mg/L]	12-Jan-12	17:34	< 0.0005	< 0.0005
Copper [mg/L]	12-Jan-12	17:34	1.55	0.143
Iron [mg/L]	16-Jan-12	09:13	< 0.003	< 0.003
Potassium [mg/L]	16-Jan-12	09:13	0.118	0.122
Lithium [mg/L]	12-Jan-12	17:34	< 0.001	< 0.001
Magnesium [mg/L]	16-Jan-12	09:13	0.007	0.011
Manganese [mg/L]	12-Jan-12	17:34	0.00243	0.00314
Molybdenum [mg/L]	12-Jan-12	17:34	0.00091	0.00074
Sodium [mg/L]	16-Jan-12	09:13	0.01	0.02
Nickel [mg/L]	12-Jan-12	17:34	0.0010	0.0018
Lead [mg/L]	12-Jan-12	17:34	0.00014	0.00005

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Project : CALR-12074-002

LR Report : **CA10099-JAN12**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 135	6: Cyclone U/F-Desulphidized Wk# 135
Antimony [mg/L]	12-Jan-12	17:34	< 0.0002	< 0.0002
Selenium [mg/L]	12-Jan-12	17:34	< 0.001	< 0.001
Silicon [mg/L]	16-Jan-12	09:13	0.22	0.22
Tin [mg/L]	12-Jan-12	17:34	0.00100	0.00101
Strontium [mg/L]	16-Jan-12	09:13	0.0006	0.0014
Titanium [mg/L]	12-Jan-12	17:34	< 0.0001	< 0.0001
Thallium [mg/L]	12-Jan-12	17:34	< 0.00002	< 0.00002
Uranium [mg/L]	12-Jan-12	17:34	< 0.000001	< 0.000001
Vanadium [mg/L]	12-Jan-12	17:34	< 0.00003	0.00005
Tungsten [mg/L]	12-Jan-12	17:34	< 0.00003	0.00004
Yttrium [mg/L]	12-Jan-12	17:34	0.000024	< 0.000001
Zinc [mg/L]	16-Jan-12	09:13	0.024	0.014

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Tuesday, January 24, 2012

Environmental Met
Attn : Barb Bowman

Date Rec. : 17 January 2012
LR Report: **CA11050-JAN12**
Reference: Wk#136

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 136	6: Cyclone U/F-Desulphidized Wk# 136
Sample Date & Time			17-Jan-12	17-Jan-12
Hum Cell Leachate Volume [mL]	---	---	967	986
pH [units]	18-Jan-12	12:24	5.76	5.91
Alkalinity [mg/L as CaCO3]	18-Jan-12	12:24	< 2	< 2
Acidity [mg/L as CaCO3]	18-Jan-12	12:24	5	< 2
Conductivity [µS/cm]	18-Jan-12	12:24	11	2
Sulphate [mg/L]	24-Jan-12	15:37	3.3	0.6

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Monday, February 06, 2012

Environmental Met
Attn : Barb Bowman

Date Rec. : 24 January 2012
LR Report: **CA10190-JAN12**
Reference: Wk#137

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 137	6: Cyclone U/F-Desulphidized Wk# 137
Sample Date & Time			24-Jan-12	24-Jan-12
Hum Cell Leachate Volume [mL]	---	---	970	982
pH [units]	25-Jan-12	13:59	5.79	5.97
Alkalinity [mg/L as CaCO3]	25-Jan-12	13:59	< 2	< 2
Acidity [mg/L as CaCO3]	25-Jan-12	13:59	4	< 2
Conductivity [µS/cm]	25-Jan-12	13:59	13	6
Sulphate [mg/L]	02-Feb-12	15:12	3.3	0.7

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Tuesday, February 07, 2012

Environmental Met
Attn : Barb Bowman

Date Rec. : 31 January 2012
LR Report: **CA10250-JAN12**
Reference: Wk#138

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 138	6: Cyclone U/F-Desulphidized Wk# 138
Sample Date & Time			31-Jan-12	31-Jan-12
Hum Cell Leachate Volume [mL]	---	---	979	984
pH [units]	02-Feb-12	08:23	5.64	5.81
Alkalinity [mg/L as CaCO3]	02-Feb-12	08:23	< 2	< 2
Acidity [mg/L as CaCO3]	02-Feb-12	08:23	4	2
Conductivity [µS/cm]	02-Feb-12	08:23	11	2
Sulphate [mg/L]	07-Feb-12	15:17	3.7	0.8

Dianne Griffin
Project Specialist

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Project : CALR-12074-002

Tuesday, February 14, 2012

Environmental Met
Attn : Barb Bowman

Date Rec. : 07 February 2012
LR Report: **CA10049-FEB12**
Reference: Wk#139

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 139	6: Cyclone U/F-Desulphidized Wk# 139
Sample Date & Time			07-Feb-12	07-Feb-12
Hum Cell Leachate Volume [mL]	---	---	988	994
pH [units]	09-Feb-12	11:44	5.47	5.77
Alkalinity [mg/L as CaCO3]	09-Feb-12	11:44	< 2	< 2
Acidity [mg/L as CaCO3]	09-Feb-12	11:44	5	3
Conductivity [µS/cm]	09-Feb-12	11:44	14	5
Sulphate [mg/L]	10-Feb-12	15:20	4.0	0.7

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Thursday, March 01, 2012

Environmental Met
Attn : Barb Bowman

Date Rec. : 14 February 2012
LR Report: **CA10112-FEB12**
Reference: Wk#140

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk#140	6: Cyclone U/F-Desulphidized Wk#140
Sample Date & Time			14-Feb-12	14-Feb-12
Hum Cell Leachate Volume [mL]	---	---	964	990
pH [units]	16-Feb-12	19:36	5.75	5.90
Alkalinity [mg/L as CaCO3]	16-Feb-12	19:36	< 2	< 2
Acidity [mg/L as CaCO3]	16-Feb-12	19:36	4	< 2
Conductivity [µS/cm]	16-Feb-12	19:36	19	2
Sulphate [mg/L]	23-Feb-12	16:23	3.5	0.6
Mercury [mg/L]	16-Feb-12	14:44	< 0.0001	< 0.0001
Silver [mg/L]	23-Feb-12	15:29	< 0.00001	< 0.00001
Aluminum [mg/L]	20-Feb-12	10:21	0.09	0.03
Arsenic [mg/L]	23-Feb-12	15:29	< 0.0002	0.0002
Barium [mg/L]	23-Feb-12	15:29	0.0328	0.225
Beryllium [mg/L]	23-Feb-12	15:29	0.00007	0.00004
Boron [mg/L]	23-Feb-12	15:29	< 0.0002	< 0.0002
Bismuth [mg/L]	23-Feb-12	15:29	< 0.00001	< 0.00001
Calcium [mg/L]	20-Feb-12	10:21	0.99	0.67
Cadmium [mg/L]	23-Feb-12	15:29	0.000077	0.000058
Cobalt [mg/L]	23-Feb-12	15:29	0.000516	0.000437
Chromium [mg/L]	23-Feb-12	15:29	< 0.0005	< 0.0005
Copper [mg/L]	23-Feb-12	15:29	1.46	0.148
Iron [mg/L]	20-Feb-12	10:21	< 0.003	< 0.003
Potassium [mg/L]	20-Feb-12	10:21	0.114	0.115
Lithium [mg/L]	23-Feb-12	15:29	< 0.001	< 0.001
Magnesium [mg/L]	20-Feb-12	10:21	0.007	0.010
Manganese [mg/L]	23-Feb-12	15:29	0.00271	0.00266
Molybdenum [mg/L]	23-Feb-12	15:29	0.00067	0.00053
Sodium [mg/L]	20-Feb-12	10:22	0.01	0.01
Nickel [mg/L]	23-Feb-12	15:29	0.0007	0.0014
Lead [mg/L]	23-Feb-12	15:29	0.00009	0.00002
Antimony [mg/L]	23-Feb-12	15:29	0.0002	0.0003
Selenium [mg/L]	23-Feb-12	15:29	< 0.001	< 0.001
Silicon [mg/L]	20-Feb-12	10:22	0.20	0.19
Tin [mg/L]	23-Feb-12	15:29	0.00103	0.00104

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Project : CALR-12074-002

LR Report : **CA10112-FEB12**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk#140	6: Cyclone U/F-Desulphidized Wk#140
Strontium [mg/L]	20-Feb-12	10:22	0.0006	0.0013
Titanium [mg/L]	23-Feb-12	15:29	< 0.0001	< 0.0001
Thallium [mg/L]	23-Feb-12	15:29	< 0.00002	< 0.00002
Uranium [mg/L]	23-Feb-12	15:29	0.000008	0.000004
Vanadium [mg/L]	23-Feb-12	15:29	< 0.00003	0.00003
Tungsten [mg/L]	23-Feb-12	15:29	< 0.00003	0.00010
Yttrium [mg/L]	23-Feb-12	15:29	0.000022	0.000004
Zinc [mg/L]	20-Feb-12	10:22	0.024	0.014

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Tuesday, March 06, 2012

Environmental Met
Attn : Barb Bowman

Date Rec. : 21 February 2012
LR Report: **CA10170-FEB12**
Reference: Wk#141

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 141	6: Cyclone U/F-Desulphidized Wk# 141
Sample Date & Time			21-Feb-12	21-Feb-12
Hum Cell Leachate Volume [mL]	---	---	989	992
pH [units]	23-Feb-12	08:25	5.61	5.78
Alkalinity [mg/L as CaCO3]	23-Feb-12	08:25	< 2	< 2
Acidity [mg/L as CaCO3]	23-Feb-12	08:25	5	2
Conductivity [µS/cm]	23-Feb-12	08:25	15	6
Sulphate [mg/L]	29-Feb-12	15:40	3.7	0.8

Dianne Griffin
Project Specialist

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Project : CALR-12074-002

Thursday, March 08, 2012

Environmental Met
Attn : Barb Bowman

Date Rec. : 28 February 2012
LR Report: **CA10215-FEB12**
Reference: Wk#142

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 142	6: Cyclone U/F-Desulphidized Wk# 142
Sample Date & Time			28-Feb-12	28-Feb-12
Hum Cell Leachate Volume [mL]	---	---	950	972
pH [units]	05-Mar-12	08:34	5.73	5.87
Alkalinity [mg/L as CaCO3]	05-Mar-12	08:34	< 2	< 2
Acidity [mg/L as CaCO3]	05-Mar-12	08:34	6	2
Conductivity [µS/cm]	05-Mar-12	08:34	15	6
Sulphate [mg/L]	07-Mar-12	12:04	3.8	0.6

Dianne Griffin
Project Specialist

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SGS Canada Inc.
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Project : CALR-12074-002

Thursday, March 15, 2012

Environmental Met
Attn : Barb Bowman

Date Rec. : 06 March 2012
LR Report: **CA10012-MAR12**
Reference: Wk#143

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 143	6: Cyclone U/F-Desulphidized Wk# 143
Sample Date & Time			06-Mar-12	06-Mar-12
Hum Cell Leachate Volume [mL]	---	---	962	990
pH [units]	08-Mar-12	09:21	5.75	6.12
Alkalinity [mg/L as CaCO3]	08-Mar-12	09:21	< 2	< 2
Acidity [mg/L as CaCO3]	08-Mar-12	09:21	3	< 2
Conductivity [µS/cm]	08-Mar-12	09:21	15	6
Sulphate [mg/L]	14-Mar-12	12:22	6.3	1.4

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Wednesday, March 21, 2012

Environmental Met
Attn : Barb Bowman

Date Rec. : 13 March 2012
LR Report: **CA10082-MAR12**
Reference: Wk#144

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 144	6: Cyclone U/F-Desulphidized Wk# 144
Sample Date & Time			13-Mar-12	13-Mar-12
Hum Cell Leachate Volume [mL]	---	---	953	977
pH [units]	15-Mar-12	08:58	5.43	5.63
Alkalinity [mg/L as CaCO3]	15-Mar-12	08:58	< 2	< 2
Acidity [mg/L as CaCO3]	15-Mar-12	08:58	4	< 2
Conductivity [µS/cm]	15-Mar-12	08:58	12	2
Sulphate [mg/L]	16-Mar-12	14:35	3.5	0.6

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Monday, March 26, 2012

Environmental Met
Attn : Barb Bowman

Date Rec. : 20 March 2012
LR Report: **CA10124-MAR12**
Reference: Wk#145

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 145	6: Cyclone U/F-Desulphidized Wk# 145
Sample Date & Time			20-Mar-12	20-Mar-12
Hum Cell Leachate Volume [mL]	---	---	976	1002
pH [units]	21-Mar-12	11:25	5.81	6.11
Alkalinity [mg/L as CaCO3]	21-Mar-12	11:25	< 2	< 2
Acidity [mg/L as CaCO3]	21-Mar-12	11:25	5	2
Conductivity [µS/cm]	21-Mar-12	11:25	12	2
Sulphate [mg/L]	26-Mar-12	14:22	3.7	0.7
Mercury [mg/L]	23-Mar-12	09:40	< 0.0001	< 0.0001
Silver [mg/L]	26-Mar-12	15:06	< 0.00001	< 0.00001
Aluminum [mg/L]	22-Mar-12	15:50	0.11	0.02
Arsenic [mg/L]	26-Mar-12	15:06	< 0.0002	0.0003
Barium [mg/L]	26-Mar-12	15:06	0.0390	0.233
Beryllium [mg/L]	26-Mar-12	15:06	0.00005	0.00002
Boron [mg/L]	26-Mar-12	15:06	0.0004	0.0002
Bismuth [mg/L]	26-Mar-12	15:06	< 0.00001	< 0.00001
Calcium [mg/L]	22-Mar-12	15:50	1.15	0.70
Cadmium [mg/L]	26-Mar-12	15:06	0.000193	0.000112
Cobalt [mg/L]	26-Mar-12	15:06	0.000570	0.000457
Chromium [mg/L]	26-Mar-12	15:06	< 0.0005	< 0.0005
Copper [mg/L]	26-Mar-12	15:06	1.79	0.161
Iron [mg/L]	22-Mar-12	15:50	< 0.003	< 0.003
Potassium [mg/L]	22-Mar-12	15:50	0.138	0.130
Lithium [mg/L]	26-Mar-12	15:06	< 0.001	< 0.001
Magnesium [mg/L]	22-Mar-12	15:51	0.008	0.036
Manganese [mg/L]	26-Mar-12	15:06	0.00259	0.00305
Molybdenum [mg/L]	26-Mar-12	15:06	0.00045	0.00046
Sodium [mg/L]	22-Mar-12	15:51	< 0.01	0.02
Nickel [mg/L]	26-Mar-12	15:06	0.0010	0.0018
Lead [mg/L]	26-Mar-12	15:06	0.00011	0.00005

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Project : CALR-12074-002

LR Report : **CA10124-MAR12**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 145	6: Cyclone U/F-Desulphidized Wk# 145
Antimony [mg/L]	26-Mar-12	15:06	< 0.0002	< 0.0002
Selenium [mg/L]	26-Mar-12	15:06	< 0.001	< 0.001
Silicon [mg/L]	22-Mar-12	15:51	0.23	0.21
Tin [mg/L]	26-Mar-12	15:06	0.00108	0.00093
Strontium [mg/L]	22-Mar-12	15:51	0.0008	0.0014
Titanium [mg/L]	26-Mar-12	15:06	< 0.0001	< 0.0001
Thallium [mg/L]	26-Mar-12	15:06	< 0.00002	< 0.00002
Uranium [mg/L]	26-Mar-12	15:06	0.000010	0.000004
Vanadium [mg/L]	26-Mar-12	15:06	< 0.00003	0.00005
Tungsten [mg/L]	26-Mar-12	15:06	< 0.00003	< 0.00003
Yttrium [mg/L]	26-Mar-12	15:06	0.000038	0.000008
Zinc [mg/L]	22-Mar-12	15:51	0.027	0.015

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Monday, April 02, 2012

Environmental Met
Attn : Barb Bowman

Date Rec. : 27 March 2012
LR Report: **CA10190-MAR12**
Reference: Wk#146

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk#146	6: Cyclone U/F-Desulphidized Wk#146
Sample Date & Time			27-Mar-12	27-Mar-12
Hum Cell Leachate Volume [mL]	---	---	962	991
pH [units]	29-Mar-12	12:06	5.97	6.07
Alkalinity [mg/L as CaCO3]	29-Mar-12	12:06	< 2	< 2
Acidity [mg/L as CaCO3]	29-Mar-12	12:06	< 2	< 2
Conductivity [µS/cm]	29-Mar-12	12:06	16	2
Sulphate [mg/L]	02-Apr-12	09:17	5.5	1.2

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Monday, April 23, 2012

Environmental Met
Attn : Barb Bowman

Date Rec. : 03 April 2012
LR Report: **CA10017-APR12**
Reference: Wk#147

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 147	6: Cyclone U/F-Desulphidized Wk# 147
Sample Date & Time			03-Apr-12	03-Apr-12
Hum Cell Leachate Volume [mL]	---	---	982	982
pH [units]	09-Apr-12	15:00	5.72	5.85
Alkalinity [mg/L as CaCO3]	09-Apr-12	15:00	< 2	< 2
Acidity [mg/L as CaCO3]	09-Apr-12	15:00	4	< 2
Conductivity [µS/cm]	09-Apr-12	15:00	18	2
Sulphate [mg/L]	10-Apr-12	16:11	4.4	0.8

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Wednesday, April 18, 2012

Environmental Met
Attn : Barb Bowman

Date Rec. : 10 April 2012
LR Report: **CA10056-APR12**
Reference: Wk#148

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk#148	6: Cyclone U/F-Desulphidized Wk#148
Sample Date & Time			10-Apr-12	10-Apr-12
Hum Cell Leachate Volume [mL]	---	---	977	992
pH [units]	12-Apr-12	12:13	5.78	5.92
Alkalinity [mg/L as CaCO3]	12-Apr-12	12:13	< 2	< 2
Acidity [mg/L as CaCO3]	12-Apr-12	12:13	5	< 2
Conductivity [µS/cm]	12-Apr-12	12:13	15	6
Sulphate [mg/L]	17-Apr-12	14:35	3.7	0.8

Dianne Griffin
Project Specialist

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Project : CALR-12074-002

Thursday, April 26, 2012

Environmental Met
Attn : Barb Bowman

Date Rec. : 17 April 2012
LR Report: **CA10142-APR12**
Reference: Wk#149

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 149	6: Cyclone U/F-Desulphidized Wk# 149
Sample Date & Time			17-Apr-12	17-Apr-12
Hum Cell Leachate Volume [mL]	---	---	979	989
pH [units]	19-Apr-12	11:33	5.71	6.10
Alkalinity [mg/L as CaCO3]	19-Apr-12	11:33	< 2	< 2
Acidity [mg/L as CaCO3]	19-Apr-12	11:33	8	3
Conductivity [µS/cm]	19-Apr-12	11:33	16	6
Sulphate [mg/L]	24-Apr-12	10:32	3.6	0.6

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Thursday, May 03, 2012

Environmental Met
Attn : Barb Bowman

Date Rec. : 24 April 2012
LR Report: **CA10167-APR12**
Reference: Wk#150

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 150	6: Cyclone U/F-Desulphidized Wk# 150
Sample Date & Time			24-Apr-12	24-Apr-12
Hum Cell Leachate Volume [mL]	---	---	972	989
pH [units]	25-Apr-12	15:44	5.71	5.82
Alkalinity [mg/L as CaCO3]	25-Apr-12	15:44	< 2	< 2
Acidity [mg/L as CaCO3]	25-Apr-12	15:44	5	2
Conductivity [µS/cm]	25-Apr-12	15:44	12	2
Sulphate [mg/L]	01-May-12	16:30	3.6	0.6
Mercury [mg/L]	26-Apr-12	09:25	< 0.0001	< 0.0001
Silver [mg/L]	02-May-12	09:58	< 0.00001	< 0.00001
Aluminum [mg/L]	26-Apr-12	09:15	0.07	0.02
Arsenic [mg/L]	02-May-12	09:58	< 0.0002	0.0003
Barium [mg/L]	02-May-12	09:58	0.0441	0.194
Beryllium [mg/L]	02-May-12	09:58	0.00006	0.00004
Boron [mg/L]	02-May-12	09:58	< 0.0002	< 0.0002
Bismuth [mg/L]	02-May-12	09:58	< 0.00001	< 0.00001
Calcium [mg/L]	26-Apr-12	09:15	1.01	0.59
Cadmium [mg/L]	02-May-12	09:58	0.000066	0.000036
Cobalt [mg/L]	02-May-12	09:58	0.000499	0.000386
Chromium [mg/L]	02-May-12	09:58	< 0.0005	< 0.0005
Copper [mg/L]	02-May-12	09:58	1.52	0.148
Iron [mg/L]	26-Apr-12	09:15	< 0.003	< 0.003
Potassium [mg/L]	26-Apr-12	09:16	0.112	0.095
Lithium [mg/L]	02-May-12	09:58	< 0.001	< 0.001
Magnesium [mg/L]	26-Apr-12	09:16	0.007	0.009
Manganese [mg/L]	02-May-12	09:58	0.00165	0.00233
Molybdenum [mg/L]	02-May-12	09:58	0.00037	0.00037
Sodium [mg/L]	26-Apr-12	09:16	0.01	0.02
Nickel [mg/L]	02-May-12	09:58	0.0009	0.0016
Lead [mg/L]	02-May-12	09:58	< 0.00002	< 0.00002

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Project : CALR-12074-002

LR Report : **CA10167-APR12**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 150	6: Cyclone U/F-Desulphidized Wk# 150
Antimony [mg/L]	02-May-12	09:58	< 0.0002	< 0.0002
Selenium [mg/L]	02-May-12	09:58	< 0.001	< 0.001
Silicon [mg/L]	26-Apr-12	09:16	0.19	0.17
Tin [mg/L]	02-May-12	09:58	0.00104	0.00084
Strontium [mg/L]	26-Apr-12	09:16	0.0007	0.0011
Titanium [mg/L]	02-May-12	09:58	< 0.0001	< 0.0001
Thallium [mg/L]	02-May-12	09:58	< 0.00002	< 0.00002
Uranium [mg/L]	02-May-12	09:58	0.000002	< 0.000001
Vanadium [mg/L]	02-May-12	09:58	< 0.00003	0.00006
Tungsten [mg/L]	02-May-12	09:58	0.00004	< 0.00003
Yttrium [mg/L]	02-May-12	09:58	0.000032	0.000006
Zinc [mg/L]	26-Apr-12	09:16	0.023	0.012

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Thursday, May 10, 2012

Environmental Met
Attn : Barb Bowman

Date Rec. : 01 May 2012
LR Report: **CA10006-MAY12**
Reference: Wk#151

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 151	6: Cyclone U/F-Desulphidized Wk# 151
Sample Date & Time			01-May-12	01-May-12
Hum Cell Leachate Volume [mL]	---	---	979	994
pH [units]	07-May-12	08:18	5.89	5.52
Alkalinity [mg/L as CaCO3]	07-May-12	08:18	< 2	< 2
Acidity [mg/L as CaCO3]	07-May-12	08:18	5	3
Conductivity [µS/cm]	07-May-12	08:18	16	6
Sulphate [mg/L]	09-May-12	14:24	3.2	0.6

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Tuesday, May 29, 2012

Environmental Met
Attn : Barb Bowman

Date Rec. : 08 May 2012
LR Report: **CA10083-MAY12**
Reference: Wk#152

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 152	6: Cyclone U/F-Desulphidized Wk# 152
Sample Date & Time			08-May-12	08-May-12
Hum Cell Leachate Volume [mL]	---	---	983	1004
pH [units]	15-May-12	12:15	5.87	6.13
Alkalinity [mg/L as CaCO3]	15-May-12	12:15	< 2	< 2
Acidity [mg/L as CaCO3]	15-May-12	12:15	5	3
Conductivity [µS/cm]	15-May-12	12:15	15	6
Sulphate [mg/L]	14-May-12	20:03	3.4	0.6

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Tuesday, May 29, 2012

Environmental Met
Attn : Barb Bowman

Date Rec. : 15 May 2012
LR Report: **CA10138-MAY12**
Reference: Wk#153

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 153	6: Cyclone U/F-Desulphidized Wk# 153
Sample Date & Time			15-May-12	15-May-12
Hum Cell Leachate Volume [mL]	---	---	985	998
pH [units]	17-May-12	13:53	5.94	5.91
Alkalinity [mg/L as CaCO3]	17-May-12	13:53	< 2	< 2
Acidity [mg/L as CaCO3]	17-May-12	13:53	5	3
Conductivity [µS/cm]	17-May-12	13:53	20	12
Sulphate [mg/L]	24-May-12	11:04	3.6	0.7

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Tuesday, May 29, 2012

Environmental Met
Attn : Barb Bowman

Date Rec. : 22 May 2012
LR Report: **CA11125-MAY12**
Reference: Wk#154

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 154	6: Cyclone U/F-Desulphidized Wk# 154
Sample Date & Time			22-May-12	22-May-12
Hum Cell Leachate Volume [mL]	---	---	963	1000
pH [units]	25-May-12	11:10	5.48	5.70
Alkalinity [mg/L as CaCO3]	25-May-12	11:10	< 2	< 2
Acidity [mg/L as CaCO3]	25-May-12	11:10	6	2
Conductivity [µS/cm]	25-May-12	11:10	14	7
Sulphate [mg/L]	28-May-12	13:02	3.4	0.6

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Tuesday, June 05, 2012

Environmental Met
Attn : Barb Bowman

Date Rec. : 29 May 2012
LR Report: **CA10348-MAY12**
Reference: Wk#155

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 155	6: Cyclone U/F-Desulphidized Wk# 155
Sample Date & Time			29-May-12	29-May-12
Hum Cell Leachate Volume [mL]	---	---	982	1006
pH [units]	31-May-12	15:57	5.61	5.63
Alkalinity [mg/L as CaCO3]	31-May-12	15:57	< 2	< 2
Acidity [mg/L as CaCO3]	31-May-12	15:57	6	2
Conductivity [µS/cm]	31-May-12	15:57	16	5
Sulphate [mg/L]	04-Jun-12	19:36	4.4	0.7
Mercury [mg/L]	30-May-12	14:07	< 0.0001	< 0.0001
Silver [mg/L]	04-Jun-12	11:26	< 0.00001	< 0.00001
Aluminum [mg/L]	01-Jun-12	11:39	0.11	0.03
Arsenic [mg/L]	04-Jun-12	11:26	< 0.0002	0.0002
Barium [mg/L]	04-Jun-12	11:26	0.0499	0.179
Beryllium [mg/L]	04-Jun-12	11:26	0.00006	0.00004
Boron [mg/L]	04-Jun-12	11:26	0.0002	< 0.0002
Bismuth [mg/L]	04-Jun-12	11:26	< 0.00001	< 0.00001
Calcium [mg/L]	01-Jun-12	11:39	1.31	0.67
Cadmium [mg/L]	04-Jun-12	11:26	0.000064	0.000019
Cobalt [mg/L]	04-Jun-12	11:26	0.000613	0.000400
Chromium [mg/L]	04-Jun-12	11:26	< 0.0005	< 0.0005
Copper [mg/L]	04-Jun-12	11:26	1.74	0.146
Iron [mg/L]	01-Jun-12	11:39	< 0.003	< 0.003
Potassium [mg/L]	01-Jun-12	11:39	0.146	0.104
Lithium [mg/L]	04-Jun-12	11:26	< 0.001	< 0.001
Magnesium [mg/L]	01-Jun-12	11:39	0.010	0.019
Manganese [mg/L]	04-Jun-12	11:26	0.00277	0.00276
Molybdenum [mg/L]	04-Jun-12	11:26	0.00053	0.00044
Sodium [mg/L]	01-Jun-12	11:40	0.01	0.01
Nickel [mg/L]	04-Jun-12	11:26	0.0014	0.0018
Lead [mg/L]	04-Jun-12	11:26	0.00003	0.00004

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Project : CALR-12074-002

LR Report : **CA10348-MAY12**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 155	6: Cyclone U/F-Desulphidized Wk# 155
Antimony [mg/L]	04-Jun-12	11:26	< 0.0002	0.0002
Selenium [mg/L]	04-Jun-12	11:26	< 0.001	< 0.001
Silicon [mg/L]	01-Jun-12	11:40	0.25	0.19
Tin [mg/L]	04-Jun-12	11:26	0.00135	0.00078
Strontium [mg/L]	01-Jun-12	11:40	0.0008	0.0010
Titanium [mg/L]	04-Jun-12	11:26	< 0.0001	< 0.0001
Thallium [mg/L]	04-Jun-12	11:26	< 0.00002	< 0.00002
Uranium [mg/L]	04-Jun-12	11:26	< 0.000001	< 0.000001
Vanadium [mg/L]	04-Jun-12	11:26	< 0.00003	0.00004
Tungsten [mg/L]	04-Jun-12	11:26	< 0.00003	< 0.00003
Yttrium [mg/L]	04-Jun-12	11:26	0.000043	0.000006
Zinc [mg/L]	01-Jun-12	11:40	0.026	0.013

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Tuesday, June 19, 2012

Environmental Met
Attn : Barb Bowman

Date Rec. : 05 June 2012
LR Report: **CA10019-JUN12**
Reference: Wk#156

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 156	6: Cyclone U/F-Desulphidized Wk# 156
Sample Date & Time			05-Jun-12	05-Jun-12
Hum Cell Leachate Volume [mL]	---	---	979	1004
pH [units]	07-Jun-12	14:11	5.52	5.52
Alkalinity [mg/L as CaCO3]	07-Jun-12	14:11	< 2	< 2
Acidity [mg/L as CaCO3]	07-Jun-12	14:11	7	5
Conductivity [µS/cm]	13-Jun-12	13:19	17	5
Sulphate [mg/L]	11-Jun-12	21:52	4.7	0.6

Dianne Griffin
Project Specialist

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Project : CALR-12074-002

Tuesday, June 19, 2012

Environmental Met
Attn : Barb Bowman

Date Rec. : 12 June 2012
LR Report: **CA10050-JUN12**
Reference: Wk#157

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 157	6: Cyclone U/F-Desulphidized Wk# 157
Sample Date & Time			12-Jun-12	12-Jun-12
Hum Cell Leachate Volume [mL]	---	---	973	995
pH [units]	18-Jun-12	11:32	5.55	5.72
Alkalinity [mg/L as CaCO3]	18-Jun-12	11:32	< 2	< 2
Acidity [mg/L as CaCO3]	18-Jun-12	11:32	4	< 2
Conductivity [µS/cm]	18-Jun-12	11:32	16	5
Sulphate [mg/L]	14-Jun-12	17:43	4.9	1.0

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Project : CALR-12074-002

Tuesday, June 26, 2012

Environmental Met
Attn : Barb Bowman

Date Rec. : 19 June 2012
LR Report: **CA10092-JUN12**
Reference: Wk#158

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 158	6: Cyclone U/F-Desulphidized Wk# 158
Sample Date & Time			19-Jun-12	19-Jun-12
Hum Cell Leachate Volume [mL]	---	---	993	1001
pH [units]	20-Jun-12	13:53	5.60	5.70
Alkalinity [mg/L as CaCO3]	20-Jun-12	13:53	< 2	< 2
Acidity [mg/L as CaCO3]	20-Jun-12	13:53	4	3
Conductivity [µS/cm]	20-Jun-12	13:53	17	13
Sulphate [mg/L]	22-Jun-12	15:44	4.9	0.9

Dianne Griffin
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Project : CALR-12074-002

Wednesday, July 04, 2012

Environmental Met
Attn : Barb Bowman

Date Rec. : 26 June 2012
LR Report: **CA10134-JUN12**
Reference: Wk#159

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk#159	6: Cyclone U/F-Desulphidized Wk#159
Sample Date & Time			26-Jun-12	26-Jun-12
Hum Cell Leachate Volume [mL]	---	---	955	963
pH [units]	27-Jun-12	15:30	5.59	5.70
Alkalinity [mg/L as CaCO3]	27-Jun-12	15:30	< 2	< 2
Acidity [mg/L as CaCO3]	27-Jun-12	15:30	4	2
Conductivity [µS/cm]	27-Jun-12	15:30	15	5
Sulphate [mg/L]	04-Jul-12	13:58	3.4	0.6

Dianne Griffin
Project Specialist

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Project : CALR-12074-002

Wednesday, July 11, 2012

Environmental Met
Attn : Barb Bowman

Date Rec. : 03 July 2012
LR Report: **CA10006-JUL12**
Reference: Wk#160

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk#160	6: Cyclone U/F-Desulphidized Wk#160
Sample Date & Time			03-Jul-12	03-Jul-12
Hum Cell Leachate Volume [mL]	---	---	982	1009
pH [units]	10-Jul-12	09:26	5.72	5.87
Alkalinity [mg/L as CaCO3]	10-Jul-12	09:26	< 2	< 2
Acidity [mg/L as CaCO3]	10-Jul-12	09:26	3	< 2
Conductivity [µS/cm]	10-Jul-12	09:26	18	6
Sulphate [mg/L]	10-Jul-12	15:52	3.4	0.6
Mercury [mg/L]	06-Jul-12	09:23	< 0.0001	< 0.0001
Silver [mg/L]	06-Jul-12	14:04	< 0.00001	< 0.00001
Aluminum [mg/L]	05-Jul-12	09:21	0.08	0.03
Arsenic [mg/L]	06-Jul-12	14:05	< 0.0002	< 0.0002
Barium [mg/L]	06-Jul-12	14:05	0.0717	0.180
Beryllium [mg/L]	06-Jul-12	14:05	0.00006	0.00004
Boron [mg/L]	06-Jul-12	14:05	< 0.0002	< 0.0002
Bismuth [mg/L]	06-Jul-12	14:05	< 0.00001	< 0.00001
Calcium [mg/L]	05-Jul-12	09:21	1.11	0.58
Cadmium [mg/L]	06-Jul-12	14:05	0.000050	0.000015
Cobalt [mg/L]	06-Jul-12	14:05	0.000522	0.000349
Chromium [mg/L]	06-Jul-12	14:05	< 0.0005	< 0.0005
Copper [mg/L]	06-Jul-12	14:05	1.72	0.147
Iron [mg/L]	05-Jul-12	09:22	< 0.003	< 0.003
Potassium [mg/L]	05-Jul-12	09:22	0.143	0.103
Lithium [mg/L]	06-Jul-12	14:05	< 0.001	< 0.001
Magnesium [mg/L]	05-Jul-12	09:22	0.007	0.010
Manganese [mg/L]	06-Jul-12	14:05	0.00164	0.00220
Molybdenum [mg/L]	06-Jul-12	14:05	0.00049	0.00039
Sodium [mg/L]	05-Jul-12	09:22	0.02	0.02
Nickel [mg/L]	06-Jul-12	14:05	0.0010	0.0016
Lead [mg/L]	06-Jul-12	14:05	< 0.00002	0.00003

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Project : CALR-12074-002

LR Report : **CA10006-JUL12**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk#160	6: Cyclone U/F-Desulphidized Wk#160
Antimony [mg/L]	06-Jul-12	14:05	< 0.0002	< 0.0002
Selenium [mg/L]	06-Jul-12	14:05	< 0.001	< 0.001
Silicon [mg/L]	05-Jul-12	09:22	0.19	0.16
Tin [mg/L]	06-Jul-12	14:05	0.00148	0.00090
Strontium [mg/L]	05-Jul-12	09:22	0.0008	0.0009
Titanium [mg/L]	06-Jul-12	14:05	< 0.0001	< 0.0001
Thallium [mg/L]	06-Jul-12	14:05	< 0.00002	< 0.00002
Uranium [mg/L]	06-Jul-12	14:05	0.000002	< 0.000001
Vanadium [mg/L]	06-Jul-12	14:05	< 0.00003	0.00005
Tungsten [mg/L]	06-Jul-12	14:05	< 0.00003	< 0.00003
Yttrium [mg/L]	06-Jul-12	14:05	0.000037	0.000006
Zinc [mg/L]	05-Jul-12	09:22	0.022	0.013

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Thursday, July 19, 2012

Environmental Met
Attn : Barb Bowman

Date Rec. : 10 July 2012
LR Report: **CA10212-JUL12**
Reference: Wk#161

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk#161	6: Cyclone U/F-Desulphidized Wk#161
Sample Date & Time			10-Jul-12	10-Jul-12
Hum Cell Leachate Volume [mL]	---	---	968	1002
pH [units]	12-Jul-12	15:16	5.67	5.69
Alkalinity [mg/L as CaCO3]	12-Jul-12	15:16	< 2	< 2
Acidity [mg/L as CaCO3]	12-Jul-12	15:16	5	3
Conductivity [µS/cm]	12-Jul-12	15:16	20	8
Sulphate [mg/L]	17-Jul-12	09:04	4.3	0.8

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

Tuesday, July 24, 2012

Environmental Met
Attn : Barb Bowman

Date Rec. : 17 July 2012
LR Report: **CA10213-JUL12**
Reference: Wk#162

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk#162	6: Cyclone U/F-Desulphidized Wk#162
Sample Date & Time			17-Jul-12	17-Jul-12
Hum Cell Leachate Volume [mL]	---	---	986	1004
pH [units]	20-Jul-12	11:22	5.78	5.88
Alkalinity [mg/L as CaCO3]	20-Jul-12	11:22	< 2	< 2
Acidity [mg/L as CaCO3]	20-Jul-12	11:22	3	< 2
Conductivity [µS/cm]	20-Jul-12	11:22	16	6
Sulphate [mg/L]	24-Jul-12	12:56	3.2	0.6

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

August-10-12

Environmental Met
Attn : Barb Bowman

Date Rec. : 31 July 2012
LR Report: **CA10215-JUL12**
Reference: Wk#164

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk#164	6: Cyclone U/F-Desulphidized Wk#164
Sample Date & Time			31-Jul-12	31-Jul-12
Hum Cell Leachate Volume [mL]	---	---	974	1003
pH [units]	03-Aug-12	11:34	5.65	5.84
Alkalinity [mg/L as CaCO3]	03-Aug-12	11:34	< 2	< 2
Acidity [mg/L as CaCO3]	03-Aug-12	11:34	7	< 2
Conductivity [µS/cm]	03-Aug-12	11:34	16	6
Sulphate [mg/L]	08-Aug-12	16:11	3.0	0.6

Brian Graham B.Sc.
Project Specialist
Environmental Services, Analytical

OnLine LIMS

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Project : CALR-12074-002

Friday, August 17, 2012

Environmental Met
Attn : Barb Bowman

Date Rec. : 07 August 2012
LR Report: **CA10024-AUG12**
Reference: Wk#165

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 165	6: Cyclone U/F-Desulphidized Wk# 165
Sample Date & Time			07-Aug-12	07-Aug-12
Hum Cell Leachate Volume [mL]	---	---	987	991
pH [units]	10-Aug-12	07:51	5.99	5.86
Alkalinity [mg/L as CaCO3]	10-Aug-12	07:51	< 2	< 2
Acidity [mg/L as CaCO3]	10-Aug-12	07:51	2	< 2
Conductivity [µS/cm]	10-Aug-12	07:51	17	5
Sulphate [mg/L]	16-Aug-12	13:47	4.3	0.7
Mercury [mg/L]	10-Aug-12	08:15	< 0.0001	< 0.0001
Silver [mg/L]	14-Aug-12	07:29	< 0.00001	< 0.00001
Aluminum [mg/L]	10-Aug-12	13:02	0.08	0.02
Arsenic [mg/L]	14-Aug-12	07:29	< 0.0002	0.0002
Barium [mg/L]	14-Aug-12	07:29	0.0866	0.166
Beryllium [mg/L]	14-Aug-12	07:29	0.00006	0.00003
Boron [mg/L]	14-Aug-12	07:29	0.0012	0.0011
Bismuth [mg/L]	14-Aug-12	07:29	< 0.00001	< 0.00001
Calcium [mg/L]	10-Aug-12	13:02	1.24	0.55
Cadmium [mg/L]	14-Aug-12	07:29	0.000070	0.000039
Cobalt [mg/L]	14-Aug-12	07:29	0.000546	0.000361
Chromium [mg/L]	14-Aug-12	07:29	< 0.0005	< 0.0005
Copper [mg/L]	14-Aug-12	07:29	1.65	0.156
Iron [mg/L]	10-Aug-12	13:02	< 0.003	< 0.003
Potassium [mg/L]	10-Aug-12	13:02	0.159	0.101
Lithium [mg/L]	14-Aug-12	07:29	< 0.001	< 0.001
Magnesium [mg/L]	10-Aug-12	13:02	0.008	0.008
Manganese [mg/L]	14-Aug-12	07:29	0.00173	0.00207
Molybdenum [mg/L]	14-Aug-12	07:29	0.00040	0.00038
Sodium [mg/L]	10-Aug-12	13:02	0.02	0.01
Nickel [mg/L]	14-Aug-12	07:29	0.0010	0.0015
Lead [mg/L]	14-Aug-12	07:29	< 0.00002	0.00005

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Project : CALR-12074-002

LR Report : **CA10024-AUG12**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 165	6: Cyclone U/F-Desulphidized Wk# 165
Antimony [mg/L]	14-Aug-12	07:29	0.0003	0.0004
Selenium [mg/L]	14-Aug-12	07:29	< 0.001	< 0.001
Silicon [mg/L]	10-Aug-12	13:02	0.24	0.19
Tin [mg/L]	14-Aug-12	07:29	0.00154	0.00096
Strontium [mg/L]	10-Aug-12	13:02	0.0010	0.0008
Titanium [mg/L]	14-Aug-12	07:29	< 0.0001	< 0.0001
Thallium [mg/L]	14-Aug-12	07:29	< 0.00002	< 0.00002
Uranium [mg/L]	14-Aug-12	07:29	0.000019	0.000019
Vanadium [mg/L]	14-Aug-12	07:29	< 0.00003	0.00006
Tungsten [mg/L]	14-Aug-12	07:29	< 0.00003	< 0.00003
Yttrium [mg/L]	14-Aug-12	07:29	0.000028	0.000007
Zinc [mg/L]	10-Aug-12	13:02	0.023	0.013

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

August-24-12

Environmental Met
Attn : Barb Bowman

,
,
Phone: , Fax:

Date Rec. : 14 August 2012
LR Report: **CA10067-AUG12**
Reference: Wk# 166

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 166	6: Cyclone U/F-Desulphidized Wk# 166
Sample Date & Time					14-Aug-12	14-Aug-12
Hum Cell Leachate Volume [mL]	---	---	---	---	945	1003
pH [units]	14-Aug-12	14:18	15-Aug-12	10:01	5.95	5.66
Alkalinity [mg/L as CaCO3]	14-Aug-12	14:18	15-Aug-12	10:01	< 2	< 2
Acidity [mg/L as CaCO3]	14-Aug-12	14:18	15-Aug-12	10:01	4	2
Conductivity [µS/cm]	14-Aug-12	14:18	15-Aug-12	10:01	18	7
Sulphate [mg/L]	16-Aug-12	16:06	22-Aug-12	14:02	3.2	0.7

Patti Stark
Project Specialist Environmental Services, Analytical

OnLine LIMS

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Project : CALR-12074-002

September-05-12

Environmental Met
Attn : Barb Bowman

Date Rec. : 21 August 2012
LR Report: **CA10187-AUG12**
Reference: Wk#167

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk#167	6: Cyclone U/F-Desulphidized Wk#167
Sample Date & Time			21-Aug-12	21-Aug-12
Hum Cell Leachate Volume [mL]	---	---	972	985
pH [units]	22-Aug-12	18:53	5.66	5.69
Alkalinity [mg/L as CaCO3]	22-Aug-12	18:53	< 2	< 2
Acidity [mg/L as CaCO3]	22-Aug-12	18:53	6	3
Conductivity [µS/cm]	22-Aug-12	18:53	21	11
Sulphate [mg/L]	28-Aug-12	16:16	3.3	0.6

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

September-13-12

Environmental Met
Attn : Barb Bowman

Date Rec. : 28 August 2012
LR Report: **CA10396-AUG12**
Reference: Wk#168

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk#168	6: Cyclone U/F-Desulphidized Wk#168
Sample Date & Time			28-Aug-12	28-Aug-12
Hum Cell Leachate Volume [mL]	---	---	990	1000
pH [units]	29-Aug-12	19:51	5.76	5.75
Alkalinity [mg/L as CaCO3]	29-Aug-12	19:51	< 2	< 2
Acidity [mg/L as CaCO3]	29-Aug-12	19:51	3	2
Conductivity [µS/cm]	29-Aug-12	19:51	15	5
Sulphate [mg/L]	07-Sep-12	11:50	4.4	1.0

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

September-13-12

Environmental Met
Attn : Barb Bowman

Date Rec. : 04 September 2012
LR Report: **CA10006-SEP12**
Reference: Wk#169

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 169	6: Cyclone U/F-Desulphidized Wk# 169
Sample Date & Time			04-Sep-12	04-Sep-12
Hum Cell Leachate Volume [mL]	---	---	945	999
pH [units]	07-Sep-12	14:46	5.62	5.55
Alkalinity [mg/L as CaCO3]	07-Sep-12	14:46	< 2	< 2
Acidity [mg/L as CaCO3]	07-Sep-12	14:46	4	4
Conductivity [µS/cm]	07-Sep-12	14:46	16	11
Sulphate [mg/L]	12-Sep-12	16:52	4.2	0.7

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

September-20-12

Environmental Met
Attn : Barb Bowman

Date Rec. : 11 September 2012
LR Report: **CA10050-SEP12**
Reference: Wk#170

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 170	6: Cyclone U/F-Desulphidized Wk# 170
Sample Date & Time			11-Sep-12	11-Sep-12
Hum Cell Leachate Volume [mL]	---	---	984	983
pH [units]	18-Sep-12	08:31	5.37	5.90
Alkalinity [mg/L as CaCO3]	18-Sep-12	08:31	< 2	< 2
Acidity [mg/L as CaCO3]	18-Sep-12	08:31	4	< 2
Conductivity [µS/cm]	18-Sep-12	08:31	21	5
Sulphate [mg/L]	15-Sep-12	11:16	3.6	0.6
Mercury [mg/L]	13-Sep-12	09:19	< 0.0001	< 0.0001
Silver [mg/L]	17-Sep-12	03:36	< 0.00001	< 0.00001
Aluminum [mg/L]	13-Sep-12	14:01	0.07	0.03
Arsenic [mg/L]	17-Sep-12	03:36	< 0.0002	0.0003
Barium [mg/L]	17-Sep-12	03:36	0.102	0.155
Beryllium [mg/L]	17-Sep-12	03:36	0.00004	0.00003
Boron [mg/L]	17-Sep-12	03:36	< 0.0002	< 0.0002
Bismuth [mg/L]	17-Sep-12	03:36	< 0.00001	< 0.00001
Calcium [mg/L]	13-Sep-12	14:01	1.31	0.55
Cadmium [mg/L]	17-Sep-12	03:36	0.000080	0.000039
Cobalt [mg/L]	17-Sep-12	03:36	0.000607	0.000344
Chromium [mg/L]	17-Sep-12	03:36	< 0.0005	< 0.0005
Copper [mg/L]	17-Sep-12	03:36	1.95	0.163
Iron [mg/L]	13-Sep-12	14:01	< 0.003	< 0.003
Potassium [mg/L]	13-Sep-12	14:01	0.184	0.111
Lithium [mg/L]	17-Sep-12	03:36	< 0.001	< 0.001
Magnesium [mg/L]	13-Sep-12	14:01	0.008	0.008
Manganese [mg/L]	17-Sep-12	03:36	0.00200	0.00201
Molybdenum [mg/L]	17-Sep-12	03:36	0.00073	0.00041
Sodium [mg/L]	13-Sep-12	14:01	< 0.01	0.01

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Project : CALR-12074-002
LR Report : **CA10050-SEP12**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 170	6: Cyclone U/F-Desulphidized Wk# 170
Nickel [mg/L]	17-Sep-12	03:36	0.0011	0.0015
Lead [mg/L]	17-Sep-12	03:36	0.00002	< 0.00002
Antimony [mg/L]	17-Sep-12	03:36	< 0.0002	< 0.0002
Selenium [mg/L]	17-Sep-12	03:36	< 0.001	< 0.001
Silicon [mg/L]	13-Sep-12	14:01	0.21	0.17
Tin [mg/L]	17-Sep-12	03:36	0.00128	0.00070
Strontium [mg/L]	13-Sep-12	14:01	0.0010	0.0009
Titanium [mg/L]	17-Sep-12	03:36	< 0.0001	< 0.0001
Thallium [mg/L]	17-Sep-12	03:36	< 0.00002	< 0.00002
Uranium [mg/L]	17-Sep-12	03:36	0.000007	0.000003
Vanadium [mg/L]	17-Sep-12	03:36	< 0.00003	0.00004
Tungsten [mg/L]	17-Sep-12	03:36	< 0.00003	< 0.00003
Yttrium [mg/L]	17-Sep-12	03:36	0.000039	0.000006
Zinc [mg/L]	13-Sep-12	14:01	0.024	0.012

Dianne Griffin
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Project : CALR-12074-002

October-02-12

Environmental Met
Attn : Barb Bowman

Date Rec. : 18 September 2012
LR Report: **CA10093-SEP12**
Reference: Wk#171

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk#171	6: Cyclone U/F-Desulphidized Wk#171
Sample Date & Time			18-Sep-12	18-Sep-12
Hum Cell Leachate Volume [mL]	---	---	995	964
pH [units]	27-Sep-12	19:13	6.07	5.21
Alkalinity [mg/L as CaCO3]	27-Sep-12	19:13	< 2	< 2
Acidity [mg/L as CaCO3]	27-Sep-12	19:13	4	< 2
Conductivity [µS/cm]	27-Sep-12	19:13	24	12
Sulphate [mg/L]	25-Sep-12	19:46	3.8	0.7

Dianne Griffin
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Project : CALR-12074-002

October-05-12

Environmental Met
Attn : Barb Bowman

Date Rec. : 25 September 2012
LR Report: **CA10137-SEP12**
Reference: Wk#172

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk#172	6: Cyclone U/F-Desulphidized Wk#172
Sample Date & Time			25-Sep-12	25-Sep-12
Hum Cell Leachate Volume [mL]	---	---	923	976
pH [units]	04-Oct-12	15:59	5.97	5.82
Alkalinity [mg/L as CaCO3]	04-Oct-12	15:59	< 2	< 2
Acidity [mg/L as CaCO3]	04-Oct-12	15:59	4	< 2
Conductivity [µS/cm]	04-Oct-12	15:59	22	5
Sulphate [mg/L]	04-Oct-12	22:43	3.3	0.6

Dianne Griffin
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Project : CALR-12074-002

October-11-12

Environmental Met
Attn : Barb Bowman

Date Rec. : 02 October 2012
LR Report: **CA10016-OCT12**
Reference: Wk#173

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk#173
Sample Date & Time			02-Oct-12
Hum Cell Leachate Volume [mL]	---	---	972
pH [units]	04-Oct-12	09:07	5.44
Alkalinity [mg/L as CaCO3]	04-Oct-12	09:07	< 2
Acidity [mg/L as CaCO3]	04-Oct-12	09:07	5
Conductivity [µS/cm]	04-Oct-12	09:07	25
Sulphate [mg/L]	11-Oct-12	13:02	3.0

Brian Graham B.Sc.
Project Specialist
Environmental Services, Analytical

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Project : CALR-12074-002

October-16-12

Environmental Met
Attn : Barb Bowman

Date Rec. : 09 October 2012
LR Report: **CA10057-OCT12**
Reference: Wk#174

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk#174
Sample Date & Time			09-Oct-12
Hum Cell Leachate Volume [mL]	---	---	966
pH [units]	11-Oct-12	12:09	6.18
Alkalinity [mg/L as CaCO3]	11-Oct-12	12:09	< 2
Acidity [mg/L as CaCO3]	11-Oct-12	12:09	< 2
Conductivity [µS/cm]	11-Oct-12	12:09	14
Sulphate [mg/L]	16-Oct-12	10:55	2.7

Dianne Griffin
Project Specialist

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Project : CALR-12074-002

October-25-12

Environmental Met
Attn : Barb Bowman

Date Rec. : 16 October 2012
LR Report: **CA10101-OCT12**
Reference: Wk#175

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk#175
Sample Date & Time			16-Oct-12
Hum Cell Leachate Volume [mL]	---	---	989
pH [units]	18-Oct-12	08:36	5.75
Alkalinity [mg/L as CaCO3]	18-Oct-12	08:36	< 2
Acidity [mg/L as CaCO3]	18-Oct-12	08:36	4
Conductivity [µS/cm]	18-Oct-12	08:36	19
Sulphate [mg/L]	24-Oct-12	09:58	7.0
Mercury [mg/L]	18-Oct-12	13:12	< 0.0001
Silver [mg/L]	18-Oct-12	14:17	< 0.00001
Aluminum [mg/L]	18-Oct-12	08:32	0.05
Arsenic [mg/L]	18-Oct-12	14:17	< 0.0002
Barium [mg/L]	18-Oct-12	14:17	0.115
Beryllium [mg/L]	18-Oct-12	14:17	0.00004
Boron [mg/L]	18-Oct-12	14:17	< 0.0002
Bismuth [mg/L]	18-Oct-12	14:17	< 0.00001
Calcium [mg/L]	18-Oct-12	08:32	1.23
Cadmium [mg/L]	18-Oct-12	14:17	0.000060
Cobalt [mg/L]	18-Oct-12	14:17	0.000507
Chromium [mg/L]	18-Oct-12	14:17	< 0.0005
Copper [mg/L]	18-Oct-12	14:17	1.52
Iron [mg/L]	18-Oct-12	08:32	< 0.003
Potassium [mg/L]	18-Oct-12	08:32	0.154
Lithium [mg/L]	18-Oct-12	14:17	< 0.001
Magnesium [mg/L]	18-Oct-12	08:32	0.007
Manganese [mg/L]	18-Oct-12	14:17	0.00166
Molybdenum [mg/L]	18-Oct-12	14:17	0.00060
Sodium [mg/L]	18-Oct-12	08:32	0.01
Nickel [mg/L]	18-Oct-12	14:17	0.0009
Lead [mg/L]	18-Oct-12	14:17	0.00005

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Project : CALR-12074-002

LR Report : **CA10101-OCT12**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk#175
Antimony [mg/L]	18-Oct-12	14:17	0.0002
Selenium [mg/L]	18-Oct-12	14:17	< 0.001
Silicon [mg/L]	18-Oct-12	08:31	0.22
Tin [mg/L]	18-Oct-12	14:17	0.00131
Strontium [mg/L]	18-Oct-12	08:31	0.0010
Titanium [mg/L]	18-Oct-12	14:17	< 0.0001
Thallium [mg/L]	18-Oct-12	14:17	< 0.00002
Uranium [mg/L]	18-Oct-12	14:17	0.000003
Vanadium [mg/L]	18-Oct-12	14:17	< 0.00003
Tungsten [mg/L]	18-Oct-12	14:17	< 0.00003
Yttrium [mg/L]	18-Oct-12	14:17	0.000035
Zinc [mg/L]	18-Oct-12	08:31	0.020

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Project : CALR-12074-002

October-30-12

Environmental Met
Attn : Barb Bowman

Date Rec. : 23 October 2012
LR Report: **CA10212-OCT12**
Reference: Wk#176

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk#176
Sample Date & Time			23-Oct-12
Hum Cell Leachate Volume [mL]	---	---	973
pH [units]	26-Oct-12	09:23	6.05
Alkalinity [mg/L as CaCO3]	26-Oct-12	09:22	< 2
Acidity [mg/L as CaCO3]	26-Oct-12	09:22	< 2
Conductivity [µS/cm]	26-Oct-12	09:22	18
Sulphate [mg/L]	30-Oct-12	11:33	3.4

Dianne Griffin
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Project : CALR-12074-002

November-05-12

Environmental Met
Attn : Barb Bowman

Date Rec. : 30 October 2012
LR Report: **CA11183-OCT12**
Reference: Wk#177

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk#177
Sample Date & Time			30-Oct-12
Hum Cell Leachate Volume [mL]	---	---	943
pH [units]	02-Nov-12	14:35	5.72
Alkalinity [mg/L as CaCO3]	02-Nov-12	14:35	< 2
Acidity [mg/L as CaCO3]	02-Nov-12	14:35	5
Conductivity [µS/cm]	02-Nov-12	14:35	25
Sulphate [mg/L]	02-Nov-12	16:12	3.6

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Project : CALR-12074-002

November-15-12

Environmental Met
Attn : Barb Bowman

Date Rec. : 06 November 2012
LR Report: **CA10016-NOV12**
Reference: Wk#178

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 178
Sample Date & Time			06-Nov-12
Hum Cell Leachate Volume [mL]	---	---	980
pH [units]	12-Nov-12	14:22	5.81
Alkalinity [mg/L as CaCO3]	12-Nov-12	14:22	< 2
Acidity [mg/L as CaCO3]	12-Nov-12	14:22	3
Conductivity [µS/cm]	12-Nov-12	14:22	19
Sulphate [mg/L]	13-Nov-12	15:44	3.8

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Project : CALR-12074-002

November-27-12

Environmental Met
Attn : Barb Bowman

Date Rec. : 13 November 2012
LR Report: **CA10059-NOV12**
Reference: Wk#179

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 179
Sample Date & Time			13-Nov-12
Hum Cell Leachate Volume [mL]	---	---	995
pH [units]	15-Nov-12	14:58	5.72
Alkalinity [mg/L as CaCO3]	15-Nov-12	14:58	< 2
Acidity [mg/L as CaCO3]	15-Nov-12	14:58	3
Conductivity [µS/cm]	15-Nov-12	14:58	16
Sulphate [mg/L]	15-Nov-12	22:21	3.1

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Project : CALR-12074-002

December-11-12

Environmental Met
Attn : Barb Bowman

Date Rec. : 27 November 2012
LR Report: **CA11145-NOV12**
Reference: Wk#181

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk#181
Sample Date & Time			27-Nov-12
Hum Cell Leachate Volume [mL]	---	---	984
pH [units]	30-Nov-12	14:44	5.92
Alkalinity [mg/L as CaCO3]	30-Nov-12	14:44	< 2
Acidity [mg/L as CaCO3]	30-Nov-12	14:44	2
Conductivity [µS/cm]	30-Nov-12	14:44	17
Sulphate [mg/L]	04-Dec-12	14:26	3.0

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Project : CALR-12074-002

December-17-12

Environmental Met
Attn : Barb Bowman

Date Rec. : 04 December 2012
LR Report: **CA10005-DEC12**
Reference: Wk#182

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 182
Sample Date & Time			04-Dec-12
Hum Cell Leachate Volume [mL]	---	---	990
pH [units]	06-Dec-12	15:55	5.93
Alkalinity [mg/L as CaCO3]	06-Dec-12	15:55	< 2
Acidity [mg/L as CaCO3]	06-Dec-12	15:55	3
Conductivity [µS/cm]	06-Dec-12	15:55	17
Sulphate [mg/L]	10-Dec-12	17:55	3.9

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Project : CALR-12074-002

December-21-12

Environmental Met
Attn : Barb Bowman

Date Rec. : 11 December 2012
LR Report: **CA10048-DEC12**
Reference: Wk#183

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 183
Sample Date & Time			11-Dec-12
Hum Cell Leachate Volume [mL]	---	---	981
pH [units]	21-Dec-12	11:53	5.80
Alkalinity [mg/L as CaCO3]	21-Dec-12	11:53	< 2
Acidity [mg/L as CaCO3]	21-Dec-12	11:53	5
Conductivity [µS/cm]	21-Dec-12	11:53	20
Sulphate [mg/L]	13-Dec-12	15:30	5.0

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Project : CALR-12074-002

January-03-13

Environmental Met
Attn : Barb Bowman

Date Rec. : 18 December 2012
LR Report: **CA10090-DEC12**
Reference: Wk#184

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk#184
Sample Date & Time			18-Dec-12
Hum Cell Leachate Volume [mL]	---	---	988
pH [units]	20-Dec-12	07:55	5.51
Alkalinity [mg/L as CaCO3]	20-Dec-12	07:55	< 2
Acidity [mg/L as CaCO3]	20-Dec-12	07:55	4
Conductivity [µS/cm]	20-Dec-12	07:55	18
Sulphate [mg/L]	21-Dec-12	15:16	3.1

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Project : CALR-12074-002

January-08-13

Environmental Met
Attn : Barb Bowman

Date Rec. : 24 December 2012
LR Report: **CA11087-DEC12**
Reference: Wk#185

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 185
Sample Date & Time			24-Dec-12
Hum Cell Leachate Volume [mL]	---	---	957
pH [units]	08-Jan-13	12:42	5.26
Alkalinity [mg/L as CaCO3]	08-Jan-13	12:42	< 2
Acidity [mg/L as CaCO3]	08-Jan-13	12:42	4
Conductivity [µS/cm]	08-Jan-13	12:42	16
Sulphate [mg/L]	04-Jan-13	15:05	3.3
Mercury [mg/L]	04-Jan-13	13:27	< 0.00001
Silver [mg/L]	03-Jan-13	15:32	< 0.00001
Aluminum [mg/L]	03-Jan-13	16:22	0.05
Arsenic [mg/L]	03-Jan-13	15:32	< 0.0002
Barium [mg/L]	03-Jan-13	15:32	0.125
Beryllium [mg/L]	03-Jan-13	15:32	0.00004
Boron [mg/L]	03-Jan-13	15:32	0.0010
Bismuth [mg/L]	03-Jan-13	15:32	< 0.00001
Calcium [mg/L]	03-Jan-13	16:22	1.12
Cadmium [mg/L]	03-Jan-13	15:33	0.000068
Cobalt [mg/L]	04-Jan-13	13:20	0.000494
Chromium [mg/L]	03-Jan-13	15:33	0.0007
Copper [mg/L]	03-Jan-13	15:33	1.36
Iron [mg/L]	03-Jan-13	16:22	0.026
Potassium [mg/L]	03-Jan-13	16:22	0.138
Lithium [mg/L]	03-Jan-13	15:33	< 0.001
Magnesium [mg/L]	03-Jan-13	16:22	0.011
Manganese [mg/L]	04-Jan-13	13:20	0.00166
Molybdenum [mg/L]	03-Jan-13	15:33	0.00069
Sodium [mg/L]	03-Jan-13	16:22	0.01
Nickel [mg/L]	03-Jan-13	15:33	0.0009
Lead [mg/L]	03-Jan-13	15:33	0.00007

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Project : CALR-12074-002

LR Report : **CA11087-DEC12**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 185
Antimony [mg/L]	03-Jan-13	15:33	< 0.0002
Selenium [mg/L]	03-Jan-13	15:33	< 0.001
Silicon [mg/L]	03-Jan-13	16:22	0.13
Tin [mg/L]	03-Jan-13	15:33	0.00102
Strontium [mg/L]	03-Jan-13	16:22	0.0011
Titanium [mg/L]	04-Jan-13	13:20	< 0.0001
Thallium [mg/L]	03-Jan-13	15:33	< 0.00002
Uranium [mg/L]	03-Jan-13	15:33	0.000063
Vanadium [mg/L]	03-Jan-13	15:33	< 0.00003
Tungsten [mg/L]	03-Jan-13	15:33	< 0.00003
Yttrium [mg/L]	03-Jan-13	15:33	0.000161
Zinc [mg/L]	03-Jan-13	16:22	0.018

Dianne Griffin
Project Specialist

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Project : CALR-12074-002

January-14-13

Environmental Met
Attn : Barb Bowman

Date Rec. : 31 December 2012
LR Report: **CA11173-DEC12**
Reference: Wk#186

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 186
Sample Date & Time			31-Dec-12
Hum Cell Leachate Volume [mL]	---	---	985
pH [units]	03-Jan-13	15:08	5.71
Alkalinity [mg/L as CaCO3]	03-Jan-13	15:08	< 2
Acidity [mg/L as CaCO3]	03-Jan-13	15:08	5
Conductivity [µS/cm]	03-Jan-13	15:08	20
Sulphate [mg/L]	03-Jan-13	15:20	3.4

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

January-15-13

Environmental Met
Attn : Barb Bowman

Date Rec. : 08 January 2013
LR Report: **CA10027-JAN13**
Reference: Wk#187

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 187
Sample Date & Time			08-Jan-13
Hum Cell Leachate Volume [mL]	---	---	986
pH [units]	11-Jan-13	12:34	5.76
Alkalinity [mg/L as CaCO3]	11-Jan-13	12:34	< 2
Acidity [mg/L as CaCO3]	11-Jan-13	12:34	7
Conductivity [µS/cm]	11-Jan-13	12:34	19
Sulphate [mg/L]	10-Jan-13	15:27	2.9

Dianne Griffin
Project Specialist

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Project : CALR-12074-002

January-25-13

Environmental Met
Attn : Barb Bowman

Date Rec. : 15 January 2013
LR Report: **CA10071-JAN13**
Reference: Wk#188

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 188
Sample Date & Time			15-Jan-13
Hum Cell Leachate Volume [mL]	---	---	984
pH [units]	22-Jan-13	14:21	5.42
Alkalinity [mg/L as CaCO3]	22-Jan-13	14:21	< 2
Acidity [mg/L as CaCO3]	22-Jan-13	14:21	7
Conductivity [µS/cm]	22-Jan-13	14:21	23
Sulphate [mg/L]	17-Jan-13	15:50	4.4

Dianne Griffin
Project Specialist

OnLine LIMS

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Project : CALR-12074-002

February-01-13

Environmental Met
Attn : Barb Bowman

Date Rec. : 22 January 2013
LR Report: **CA10115-JAN13**
Reference: Wk#189

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 189
Sample Date & Time			22-Jan-13
Hum Cell Leachate Volume [mL]	---	---	981
pH [units]	25-Jan-13	15:54	6.12
Alkalinity [mg/L as CaCO3]	25-Jan-13	15:54	< 2
Acidity [mg/L as CaCO3]	25-Jan-13	15:54	6
Conductivity [µS/cm]	25-Jan-13	15:54	20
Sulphate [mg/L]	23-Jan-13	16:24	3.0

Dianne Griffin
Project Specialist

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Project : CALR-12074-002

February-06-13

Environmental Met
Attn : Barb Bowman

Date Rec. : 29 January 2013
LR Report: **CA10229-JAN13**
Reference: Wk#190

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk#190
Sample Date & Time			29-Jan-13
Hum Cell Leachate Volume [mL]	---	---	949
pH [units]	04-Feb-13	15:36	5.78
Alkalinity [mg/L as CaCO3]	04-Feb-13	15:36	< 2
Acidity [mg/L as CaCO3]	04-Feb-13	15:36	4
Conductivity [µS/cm]	04-Feb-13	15:36	16
Sulphate [mg/L]	30-Jan-13	17:22	3.0
Mercury [mg/L]	05-Feb-13	08:48	0.00001
Silver [mg/L]	04-Feb-13	11:33	< 0.00001
Aluminum [mg/L]	31-Jan-13	14:48	0.06
Arsenic [mg/L]	04-Feb-13	11:33	0.0002
Barium [mg/L]	04-Feb-13	11:33	0.129
Beryllium [mg/L]	04-Feb-13	11:33	0.00004
Boron [mg/L]	04-Feb-13	11:33	0.0004
Bismuth [mg/L]	04-Feb-13	11:33	< 0.00001
Calcium [mg/L]	31-Jan-13	14:48	1.09
Cadmium [mg/L]	04-Feb-13	11:33	0.000058
Cobalt [mg/L]	04-Feb-13	11:33	0.000532
Chromium [mg/L]	04-Feb-13	11:33	< 0.0005
Copper [mg/L]	04-Feb-13	11:33	1.57
Iron [mg/L]	31-Jan-13	14:49	0.027
Potassium [mg/L]	31-Jan-13	14:49	0.135
Lithium [mg/L]	04-Feb-13	11:33	< 0.001
Magnesium [mg/L]	31-Jan-13	14:49	0.007
Manganese [mg/L]	04-Feb-13	11:33	0.00142
Molybdenum [mg/L]	04-Feb-13	11:33	0.00062
Sodium [mg/L]	31-Jan-13	14:49	0.01
Nickel [mg/L]	04-Feb-13	11:34	0.0009
Lead [mg/L]	04-Feb-13	11:34	0.00003

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Project : CALR-12074-002

LR Report : **CA10229-JAN13**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk#190
Antimony [mg/L]	04-Feb-13	11:34	< 0.0002
Selenium [mg/L]	04-Feb-13	11:34	< 0.001
Silicon [mg/L]	31-Jan-13	14:49	0.14
Tin [mg/L]	04-Feb-13	11:34	0.00099
Strontium [mg/L]	31-Jan-13	14:49	0.0012
Titanium [mg/L]	04-Feb-13	11:34	< 0.0001
Thallium [mg/L]	04-Feb-13	11:34	0.00007
Uranium [mg/L]	04-Feb-13	11:34	0.000005
Vanadium [mg/L]	04-Feb-13	11:34	< 0.00003
Tungsten [mg/L]	04-Feb-13	11:34	< 0.00003
Yttrium [mg/L]	04-Feb-13	11:34	0.000032
Zinc [mg/L]	31-Jan-13	14:49	0.017

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Project : CALR-12074-002

February-20-13

Environmental Met
Attn : Barb Bowman

Date Rec. : 05 February 2013
LR Report: **CA10005-FEB13**
Reference: Wk#191

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 191
Sample Date & Time			05-Feb-13
Hum Cell Leachate Volume [mL]	---	---	982
pH [units]	13-Feb-13	09:46	5.89
Alkalinity [mg/L as CaCO3]	13-Feb-13	09:46	< 2
Acidity [mg/L as CaCO3]	13-Feb-13	09:46	4
Conductivity [µS/cm]	13-Feb-13	09:46	18
Sulphate [mg/L]	07-Feb-13	16:52	2.8

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Project : CALR-12074-002

February-28-13

Environmental Met
Attn : Barb Bowman

Date Rec. : 12 February 2013
LR Report: **CA10048-FEB13**
Reference: Wk#192

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 192
Sample Date & Time			12-Feb-13
Hum Cell Leachate Volume [mL]	---	---	983
pH [units]	22-Feb-13	15:31	6.02
Alkalinity [mg/L as CaCO3]	22-Feb-13	15:31	< 2
Acidity [mg/L as CaCO3]	22-Feb-13	15:31	4
Conductivity [µS/cm]	22-Feb-13	15:31	16
Sulphate [mg/L]	19-Feb-13	14:47	3.2

Dianne Griffin
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Project : CALR-12074-002

March-01-13

Environmental Met
Attn : Barb Bowman

Date Rec. : 19 February 2013
LR Report: **CA10100-FEB13**
Reference: Wk#193

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk#193
Sample Date & Time			19-Feb-13
Hum Cell Leachate Volume [mL]	---	---	950
pH [units]	21-Feb-13	10:04	5.69
Alkalinity [mg/L as CaCO3]	21-Feb-13	10:04	< 2
Acidity [mg/L as CaCO3]	21-Feb-13	10:04	4
Conductivity [µS/cm]	21-Feb-13	10:04	18
Sulphate [mg/L]	26-Feb-13	09:08	2.7

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Project : CALR-12074-002

March-05-13

Environmental Met
Attn : Barb Bowman

Date Rec. : 26 February 2013
LR Report: **CA10159-FEB13**
Reference: Wk#194

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk#194
Sample Date & Time			26-Feb-13
Hum Cell Leachate Volume [mL]	---	---	989
pH [units]	27-Feb-13	14:24	5.87
Alkalinity [mg/L as CaCO3]	28-Feb-13	12:12	< 2
Acidity [mg/L as CaCO3]	27-Feb-13	14:24	< 2
Conductivity [µS/cm]	27-Feb-13	14:24	14
Sulphate [mg/L]	04-Mar-13	13:28	3.2

Dianne Griffin
Project Specialist

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Project : CALR-12074-002

March-12-13

Environmental Met
Attn : Barb Bowman

Date Rec. : 05 March 2013
LR Report: **CA10006-MAR13**
Reference: Wk#195

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 195
Sample Date & Time			05-Mar-13
Hum Cell Leachate Volume [mL]	---	---	982
pH [units]	12-Mar-13	14:13	4.72
Alkalinity [mg/L as CaCO3]	12-Mar-13	14:14	< 2
Acidity [mg/L as CaCO3]	12-Mar-13	14:14	8
Conductivity [µS/cm]	12-Mar-13	14:14	40
Sulphate [mg/L]	12-Mar-13	10:48	6.0
Mercury [mg/L]	07-Mar-13	13:28	< 0.00001
Silver [mg/L]	11-Mar-13	07:47	< 0.00001
Aluminum [mg/L]	08-Mar-13	08:46	0.07
Arsenic [mg/L]	11-Mar-13	07:47	0.0003
Barium [mg/L]	11-Mar-13	07:47	0.128
Beryllium [mg/L]	11-Mar-13	07:47	0.00002
Boron [mg/L]	11-Mar-13	07:47	< 0.0002
Bismuth [mg/L]	11-Mar-13	07:47	< 0.00001
Calcium [mg/L]	08-Mar-13	08:46	1.06
Cadmium [mg/L]	11-Mar-13	07:47	0.000051
Cobalt [mg/L]	11-Mar-13	07:47	0.000527
Chromium [mg/L]	11-Mar-13	07:47	< 0.0005
Copper [mg/L]	11-Mar-13	07:47	1.60
Iron [mg/L]	08-Mar-13	08:46	0.005
Potassium [mg/L]	08-Mar-13	08:46	0.142
Lithium [mg/L]	11-Mar-13	07:47	< 0.001
Magnesium [mg/L]	08-Mar-13	08:46	0.007
Manganese [mg/L]	11-Mar-13	07:47	0.00150
Molybdenum [mg/L]	11-Mar-13	07:47	0.00065
Sodium [mg/L]	08-Mar-13	08:46	0.01
Nickel [mg/L]	11-Mar-13	07:47	0.0007
Lead [mg/L]	11-Mar-13	07:47	0.00002

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Project : CALR-12074-002

LR Report : **CA10006-MAR13**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 195
Antimony [mg/L]	11-Mar-13	07:47	0.0002
Selenium [mg/L]	11-Mar-13	07:47	< 0.001
Silicon [mg/L]	08-Mar-13	08:46	0.15
Tin [mg/L]	11-Mar-13	07:47	0.00104
Strontium [mg/L]	08-Mar-13	08:46	0.0010
Titanium [mg/L]	11-Mar-13	07:47	< 0.0001
Thallium [mg/L]	11-Mar-13	07:47	< 0.00002
Uranium [mg/L]	11-Mar-13	07:47	0.000013
Vanadium [mg/L]	11-Mar-13	07:47	< 0.00003
Tungsten [mg/L]	11-Mar-13	07:47	0.00003
Yttrium [mg/L]	11-Mar-13	07:47	0.000033
Zinc [mg/L]	08-Mar-13	08:47	0.017

Dianne Griffin
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Project : CALR-12074-002

March-15-13

Environmental Met
Attn : Barb Bowman

Date Rec. : 12 March 2013
LR Report: **CA10055-MAR13**
Reference: Wk#196

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 196
Sample Date & Time			12-Mar-13
Hum Cell Leachate Volume [mL]	---	---	963
pH [units]	14-Mar-13	15:45	5.48
Alkalinity [mg/L as CaCO3]	14-Mar-13	15:45	< 2
Acidity [mg/L as CaCO3]	14-Mar-13	15:45	4
Conductivity [µS/cm]	14-Mar-13	15:45	16
Sulphate [mg/L]	14-Mar-13	10:19	2.8

Dianne Griffin
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Project : CALR-12074-002

March-22-13

Environmental Met
Attn : Barb Bowman

Date Rec. : 19 March 2013
LR Report: **CA10158-MAR13**
Reference: Wk#197

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 197
Sample Date & Time			19-Mar-13
Hum Cell Leachate Volume [mL]	---	---	985
pH [units]	20-Mar-13	13:57	5.76
Alkalinity [mg/L as CaCO3]	20-Mar-13	13:57	< 2
Acidity [mg/L as CaCO3]	20-Mar-13	13:57	3
Conductivity [µS/cm]	20-Mar-13	13:57	16
Sulphate [mg/L]	22-Mar-13	12:15	2.9

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Project : CALR-12074-002

April-02-13

Environmental Met
Attn : Barb Bowman

Date Rec. : 26 March 2013
LR Report: **CA10247-MAR13**
Reference: Wk#198

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk# 198
Sample Date & Time			26-Mar-13
Hum Cell Leachate Volume [mL]	---	---	979
pH [units]	02-Apr-13	14:10	5.59
Alkalinity [mg/L as CaCO3]	02-Apr-13	14:10	< 2
Acidity [mg/L as CaCO3]	02-Apr-13	14:10	4
Conductivity [µS/cm]	02-Apr-13	14:10	16
Sulphate [mg/L]	28-Mar-13	14:24	3.1

Dianne Griffin
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Project : CALR-12074-002

April-09-13

Environmental Met
Attn : Barb Bowman

Date Rec. : 02 April 2013
LR Report: **CA10007-APR13**
Reference: Wk#199

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk#199
Sample Date & Time					02-Apr-13
Hum Cell Leachate Volume [mL]	---	---	---	---	979
pH [units]	02-Apr-13	11:46	05-Apr-13	11:02	5.25
Alkalinity [mg/L as CaCO3]	02-Apr-13	11:46	05-Apr-13	11:02	< 2
Acidity [mg/L as CaCO3]	02-Apr-13	11:46	05-Apr-13	11:02	5
Conductivity [µS/cm]	02-Apr-13	11:46	05-Apr-13	11:02	19
Sulphate [mg/L]	03-Apr-13	06:48	04-Apr-13	14:43	3.0

Patti Stark
Project Specialist Environmental Services, Analytical

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Project : CALR-12074-002

April-18-13

Environmental Met
Attn : Barb Bowman

Date Rec. : 09 April 2013
LR Report: **CA10051-APR13**
Reference: Wk#200

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk#200
Sample Date & Time					09-Apr-13
Hum Cell Leachate Volume [mL]	---	---	---	---	992
pH [units]	09-Apr-13	14:30	12-Apr-13	12:13	5.84
Alkalinity [mg/L as CaCO3]	09-Apr-13	14:30	12-Apr-13	12:13	< 2
Acidity [mg/L as CaCO3]	16-Apr-13	12:14	18-Apr-13	14:24	5
Conductivity [µS/cm]	09-Apr-13	14:30	12-Apr-13	12:13	15
Sulphate [mg/L]	10-Apr-13	06:41	10-Apr-13	17:06	3.3
Mercury [mg/L]	12-Apr-13	05:57	12-Apr-13	10:23	< 0.00001
Silver [mg/L]	10-Apr-13	11:10	12-Apr-13	10:40	< 0.00001
Aluminum [mg/L]	10-Apr-13	11:18	10-Apr-13	14:45	0.06
Arsenic [mg/L]	10-Apr-13	11:10	12-Apr-13	10:40	0.0002
Barium [mg/L]	10-Apr-13	11:10	12-Apr-13	10:40	0.133
Beryllium [mg/L]	10-Apr-13	11:10	12-Apr-13	10:40	0.00004
Boron [mg/L]	10-Apr-13	11:10	12-Apr-13	10:40	< 0.0002
Bismuth [mg/L]	10-Apr-13	11:10	12-Apr-13	10:40	< 0.00001
Calcium [mg/L]	10-Apr-13	11:18	10-Apr-13	14:45	1.18
Cadmium [mg/L]	10-Apr-13	11:10	12-Apr-13	10:41	0.000056
Cobalt [mg/L]	10-Apr-13	11:10	12-Apr-13	10:41	0.000578
Chromium [mg/L]	10-Apr-13	11:10	12-Apr-13	10:41	< 0.0005
Copper [mg/L]	10-Apr-13	11:10	12-Apr-13	10:41	1.71
Iron [mg/L]	10-Apr-13	11:18	10-Apr-13	14:45	< 0.003
Potassium [mg/L]	10-Apr-13	11:18	10-Apr-13	14:45	0.152
Lithium [mg/L]	10-Apr-13	11:10	12-Apr-13	10:41	< 0.001
Magnesium [mg/L]	10-Apr-13	11:18	10-Apr-13	14:45	0.007
Manganese [mg/L]	10-Apr-13	11:10	12-Apr-13	10:41	0.00162
Molybdenum [mg/L]	10-Apr-13	11:10	12-Apr-13	10:41	0.00072
Sodium [mg/L]	10-Apr-13	11:18	10-Apr-13	14:45	0.02
Nickel [mg/L]	10-Apr-13	11:10	12-Apr-13	10:41	0.0017
Lead [mg/L]	10-Apr-13	11:10	12-Apr-13	10:41	0.00004

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Project : CALR-12074-002

LR Report : **CA10051-APR13**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk#200
Antimony [mg/L]	10-Apr-13	11:10	12-Apr-13	10:41	< 0.0002
Selenium [mg/L]	10-Apr-13	11:10	12-Apr-13	10:41	< 0.001
Silicon [mg/L]	10-Apr-13	11:18	10-Apr-13	14:46	0.17
Tin [mg/L]	10-Apr-13	11:10	12-Apr-13	10:41	0.00110
Strontium [mg/L]	10-Apr-13	11:18	10-Apr-13	14:46	0.0010
Titanium [mg/L]	10-Apr-13	11:10	12-Apr-13	10:41	< 0.0001
Thallium [mg/L]	10-Apr-13	11:10	12-Apr-13	10:41	< 0.00002
Uranium [mg/L]	10-Apr-13	11:10	12-Apr-13	10:41	0.000009
Vanadium [mg/L]	10-Apr-13	11:10	12-Apr-13	10:41	< 0.00003
Tungsten [mg/L]	10-Apr-13	11:10	12-Apr-13	10:41	< 0.00003
Yttrium [mg/L]	10-Apr-13	11:10	12-Apr-13	10:41	0.000033
Zinc [mg/L]	10-Apr-13	11:18	10-Apr-13	14:46	0.018

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Project : CALR-12074-002

April-23-13

Environmental Met
Attn : Barb Bowman

Date Rec. : 16 April 2013
LR Report: **CA10123-APR13**
Reference: Wk#201

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk#201
Sample Date & Time					16-Apr-13
Hum Cell Leachate Volume [mL]	---	---	---	---	976
pH [units]	16-Apr-13	13:49	18-Apr-13	14:55	5.89
Alkalinity [mg/L as CaCO3]	16-Apr-13	13:49	18-Apr-13	14:55	< 2
Acidity [mg/L as CaCO3]	16-Apr-13	13:49	18-Apr-13	14:55	2
Conductivity [µS/cm]	16-Apr-13	13:49	18-Apr-13	14:55	16
Sulphate [mg/L]	17-Apr-13	06:35	17-Apr-13	22:33	5.9

Patti Stark
Project Specialist Environmental Services, Analytical

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Project : CALR-12074-002

07-May-2013

Environmental Met
Attn : Barb Bowman

Date Rec. : 23 April 2013
LR Report: **CA10168-APR13**
Reference: Wk#202

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Approval Date	4: Analysis Approval Time	5: Cyclone U/F-Untreated Wk#202
Sample Date & Time					23-Apr-13
Hum Cell Leachate Volume [mL]	---	---	---	---	983
pH [units]	23-Apr-13	01:43	25-Apr-13	10:33	5.21
Alkalinity [mg/L as CaCO3]	23-Apr-13	01:43	25-Apr-13	10:33	< 2
Acidity [mg/L as CaCO3]	23-Apr-13	01:43	25-Apr-13	10:33	5
Conductivity [µS/cm]	23-Apr-13	01:43	25-Apr-13	10:33	17
Sulphate [mg/L]	26-Apr-13	00:02	30-Apr-13	14:00	4.8

Kimberley Didsbury
Project Specialist
Environmental Services, Analytical

OnLine LIMS

00000025501

Appendix F – Geotechnical Test Reports

Environmental Testing of Resolution Pilot Plant Tailings
Resolution Copper
SGS Reference No.: 12074-002

TEST REPORT

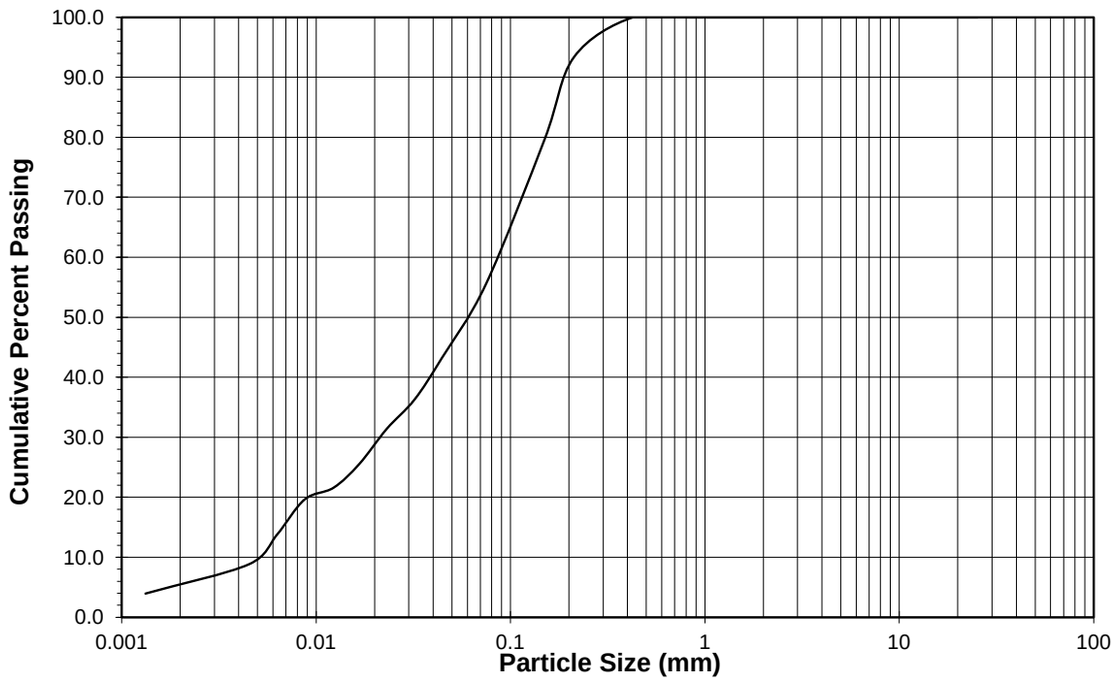
Particle Size Analysis by Hydrometer

Sample ID: Ro Tls
Date Completed: June 10/09
Reference: ASTM D 422, SOP 7-18-6

Specific Gravity: 2.69

Sieve Size (Tyler)	Particle Size (mm)	Weight Passing %
1"	25.400	100.0
1/2"	12.500	100.0
3/8"	9.500	100.0
#4	4.750	100.0
#9	2.000	100.0
#20	0.850	100.0
#35	0.425	100.0
#65	0.212	93.3
#100	0.150	79.7
#200	0.075	55.6
-	0.044	43.2
-	0.032	36.3
-	0.023	31.4
-	0.017	25.5
-	0.012	21.6
-	0.009	19.6
-	0.006	13.7
-	0.005	8.8
-	0.001	3.9

Particle Size Distribution



R. Caldwell
Project Manager, Environmental Testing

B. Bowman
Senior Technologist, Environmental Testing

Environmental Testing of Resolution Pilot Plant Tailings
Resolution Copper
SGS Reference No.: 12074-002

TEST REPORT

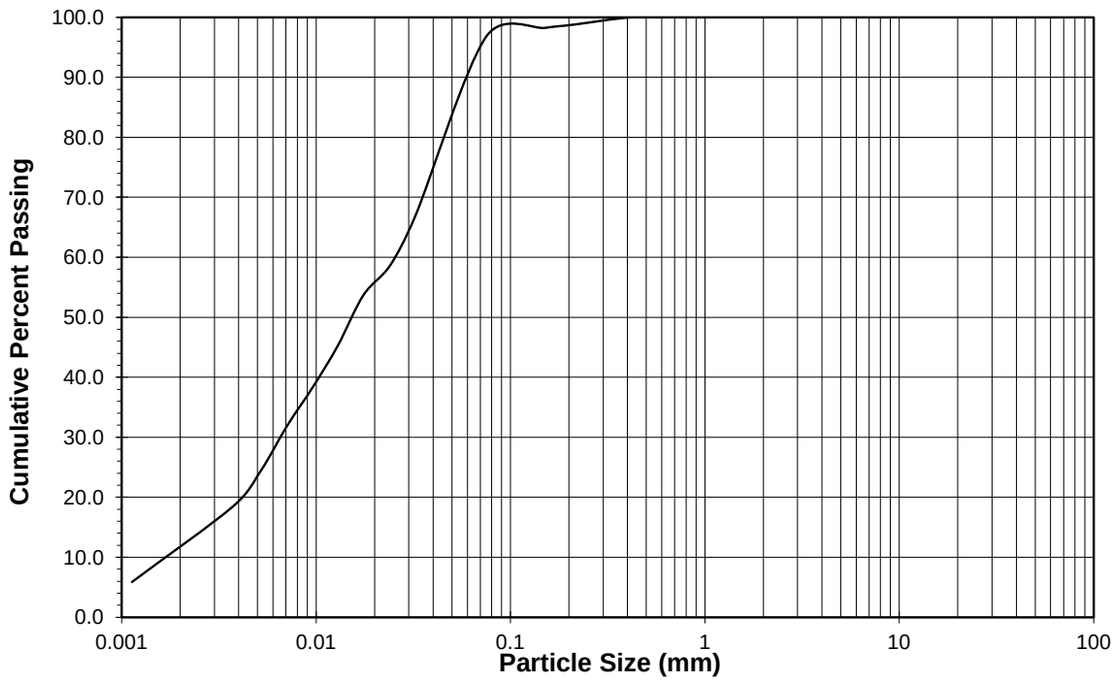
Particle Size Analysis by Hydrometer

Sample ID: 1st Cl Scav Tls
Date Completed: June 10/09
Reference: ASTM D 422, SOP 7-18-6

Specific Gravity: 3.22

Sieve Size (Tyler)	Particle Size (mm)	Weight Passing %
1"	25.400	100.0
1/2"	12.500	100.0
3/8"	9.500	100.0
#4	4.750	100.0
#9	2.000	100.0
#20	0.850	100.0
#35	0.425	100.0
#65	0.212	98.8
#100	0.150	98.2
#200	0.075	96.7
-	0.033	67.1
-	0.024	58.7
-	0.018	53.7
-	0.013	45.3
-	0.010	38.6
-	0.007	31.9
-	0.005	24.3
-	0.004	18.5
-	0.001	5.9

Particle Size Distribution



R. Caldwell
Project Manager, Environmental Testing

B. Bowman
Senior Technologist, Environmental Testing

Environmental Testing of Resolution Pilot Plant Tailings
Resolution Copper
SGS Reference No.: 12074-002

TEST REPORT

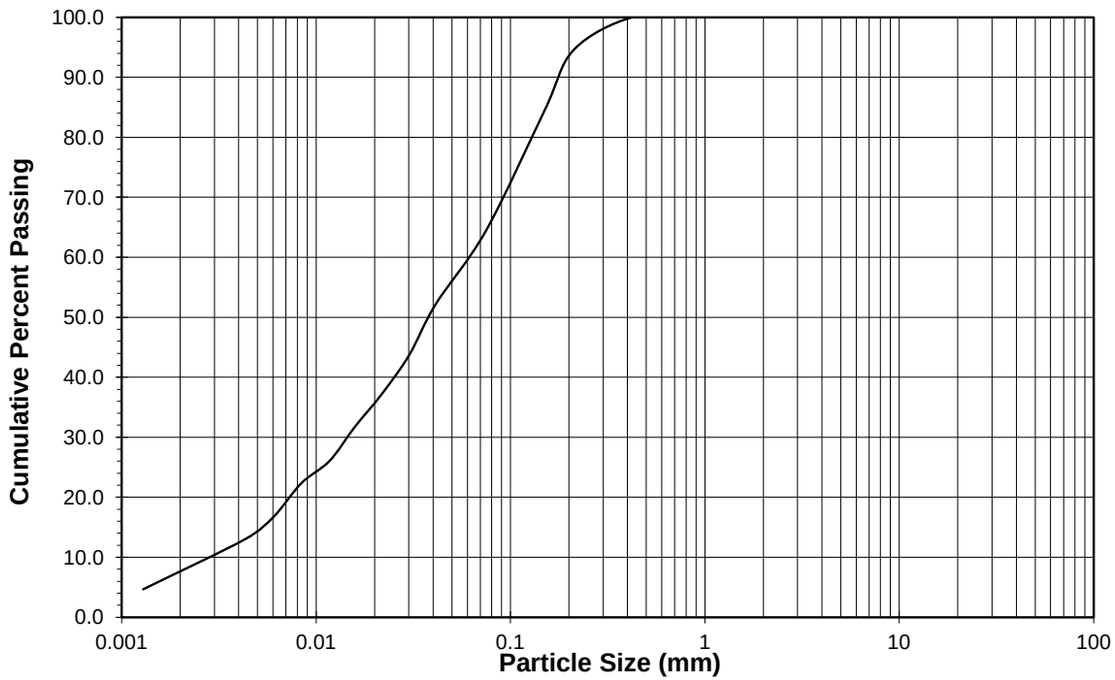
Particle Size Analysis by Hydrometer

Sample ID: Whole Tls
Date Completed: June 10/09
Reference: ASTM D 422, SOP 7-18-6

Specific Gravity: 2.80

Sieve Size (Tyler)	Particle Size (mm)	Weight Passing %
1"	25.400	100.0
1/2"	12.500	100.0
3/8"	9.500	100.0
#4	4.750	100.0
#9	2.000	100.0
#20	0.850	100.0
#35	0.425	100.0
#65	0.212	94.6
#100	0.150	84.5
#200	0.075	64.5
-	0.041	52.1
-	0.030	43.7
-	0.022	37.2
-	0.016	31.6
-	0.012	26.1
-	0.008	22.3
-	0.006	16.7
-	0.004	13.0
-	0.001	4.7

Particle Size Distribution



R. Caldwell
Project Manager, Environmental Testing

B. Bowman
Senior Technologist, Environmental Testing

Environmental Testing of Resolution Pilot Plant Tailings
Resolution Copper
SGS Reference No.: 12074-002

TEST REPORT

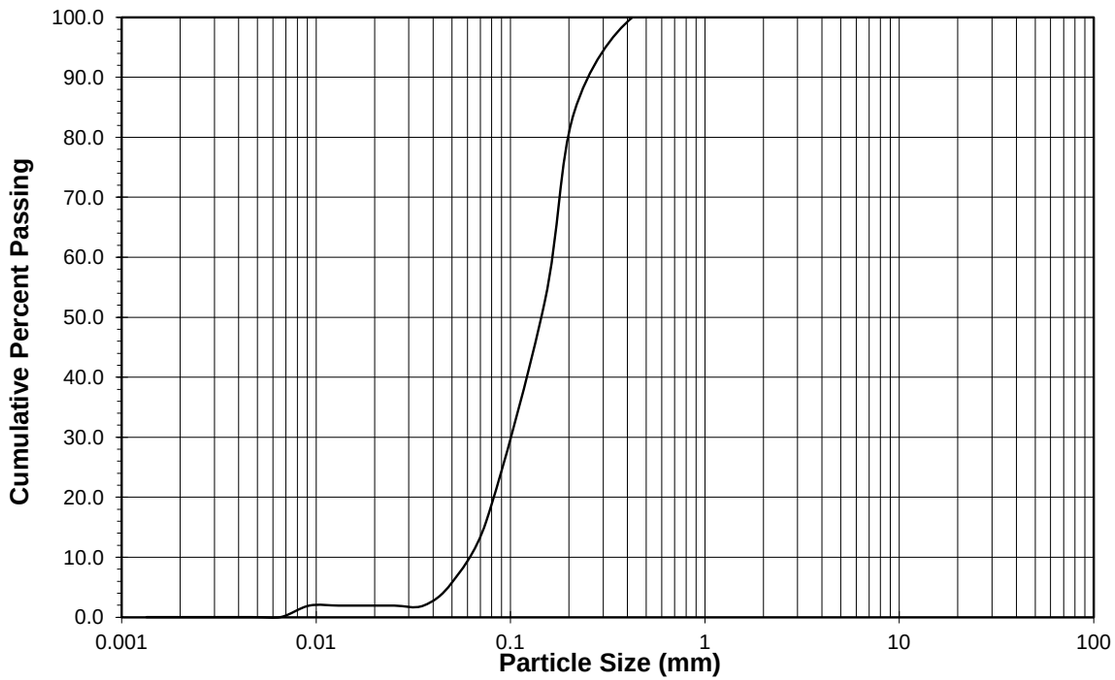
Particle Size Analysis by Hydrometer

Sample ID: Cyclone U/F - Untreated
Date Completed: June 10/09
Reference: ASTM D 422, SOP 7-18-6

Specific Gravity: 2.69

Sieve Size (Tyler)	Particle Size (mm)	Weight Passing %
1"	25.400	100.0
1/2"	12.500	100.0
3/8"	9.500	100.0
#4	4.750	100.0
#9	2.000	100.0
#20	0.850	100.0
#35	0.425	100.0
#65	0.212	84.0
#100	0.150	52.6
#200	0.075	15.9
-	0.050	5.8
-	0.036	1.9
-	0.025	1.9
-	0.018	1.9
-	0.013	1.9
-	0.009	1.9
-	0.007	0.0
-	0.005	0.0
-	0.001	0.0

Particle Size Distribution



R. Caldwell
Project Manager, Environmental Testing

B. Bowman
Senior Technologist, Environmental Testing

TEST REPORT

Liquid Limit, Plastic Limit, and Plasticity Index

Sample ID: Ro Tls
Date Completed: July 30/09
Reference: ASTM D 4318, SOP 7-18-8

Liquid Limit Determination

Parameter	Units	1	2	3	4	5
Tare ID Number	#					
Tare Weight	g	Could not be determined.				
Weight of Wet Soil + Tare	g	*Note: The liquid limit is determined by performing a number of trials in which a moist sample is spread in a brass cup and divided by a grooving tool. The groove is then allowed to flow together as a result of the impacts from the repeated dropping of the cup in a standardized mechanical device. ASTM D4318 states that if the soil pat slides on the surface of the brass cup, or if the number of blows required to close the groove is always less than 25, the liquid limit cannot be determined.*				
Weight of Dry Soil + Tare	g					
Weight of Water	g					
Weight of Dry Soil	g					
Percent Moisture	%					
Number of Blows	#					

Plastic Limit Determination

Parameter	Units	1	2
Tare ID Number	#		
Tare Weight	g		
Weight of Wet Soil + Tare	g	Not plastic.	
Weight of Dry Soil + Tare	g		
Weight of Water	g		
Weight of Dry Soil	g		
Percent Moisture	%		

Final Test Results

Liquid Limit (LL)	Plastic Limit (PL)	Plasticity Index (PI)
Could not be determined.	NP	NP

B. Bowman
Senior Technologist

R. J. Caldwell B.Sc.,
Project Manager

TEST REPORT

Liquid Limit, Plastic Limit, and Plasticity Index

Sample ID: 1st Cl Scav Tls
Date Completed: July 30/09
Reference: ASTM D 4318, SOP 7-18-8

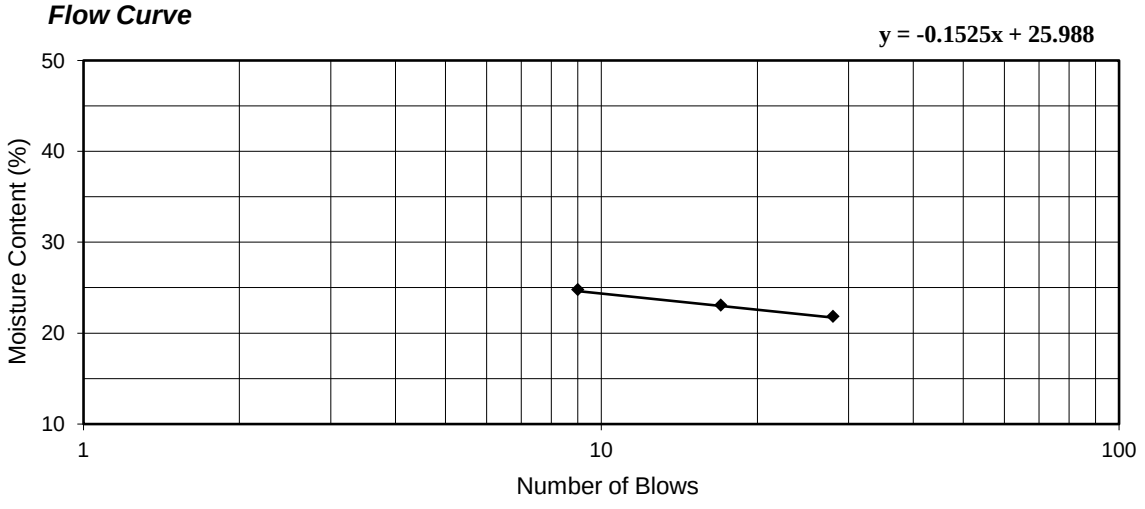
Liquid Limit Determination

Parameter	Units	1	2	3
Tare ID Number	#	9	10	11
Tare Weight	g	2.06	2.06	2.06
Weight of Wet Soil + Tare	g	18.01	15.07	17.31
Weight of Dry Soil + Tare	g	15.15	12.63	14.28
Weight of Water	g	2.86	2.44	3.03
Weight of Dry Soil	g	13.09	10.57	12.22
Percent Moisture	%	21.85	23.08	24.80
Number of Blows	#	28	17	9

Plastic Limit Determination

Parameter	Units	1	2
Tare ID Number	#		
Tare Weight	g		
Weight of Wet Soil + Tare	g	Not plastic.	
Weight of Dry Soil + Tare	g		
Weight of Water	g		
Weight of Dry Soil	g		
Percent Moisture	%		

Flow Curve



Final Test Results

Liquid Limit (LL)	Plastic Limit (PL)	Plasticity Index (PI)
22	NP	NP

Note: Sample was oven dried.

B. Bowman
Senior Technologist

R. J. Caldwell B.Sc.,
Project Manager

Environmental Testing of Resolution Pilot Plant Tailings
Resolution Copper
SGS Reference No.: 12074-002

TEST REPORT

Liquid Limit, Plastic Limit, and Plasticity Index

Sample ID: Whole Tls
Date Completed: July 30/09
Reference: ASTM D 4318, SOP 7-18-8

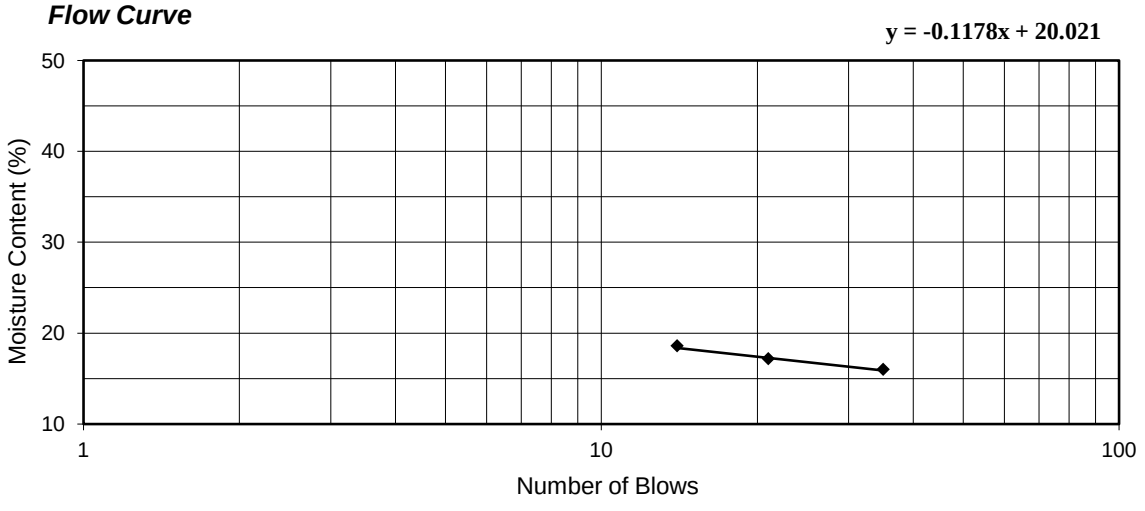
Liquid Limit Determination

Parameter	Units	1	2	3
Tare ID Number	#	6	7	8
Tare Weight	g	2.10	2.07	2.06
Weight of Wet Soil + Tare	g	16.37	16.25	13.66
Weight of Dry Soil + Tare	g	14.40	14.17	11.84
Weight of Water	g	1.97	2.08	1.82
Weight of Dry Soil	g	12.30	12.10	9.78
Percent Moisture	%	16.02	17.19	18.61
Number of Blows	#	35	21	14

Plastic Limit Determination

Parameter	Units	1	2
Tare ID Number	#		
Tare Weight	g		
Weight of Wet Soil + Tare	g	Not plastic.	
Weight of Dry Soil + Tare	g		
Weight of Water	g		
Weight of Dry Soil	g		
Percent Moisture	%		

Flow Curve



Final Test Results

Liquid Limit (LL)	Plastic Limit (PL)	Plasticity Index (PI)
17	NP	NP

Note: Sample was oven dried.

B. Bowman
Senior Technologist

R. J. Caldwell B.Sc.,
Project Manager

Environmental Testing of Resolution Pilot Plant Tailings
Resolution Copper
SGS Reference No.: 12074-002

TEST REPORT

Compaction Characteristics of Soil Using Standard Effort

Sample ID: 1st Cl Scav Tls
Date Completed: June 16/09
Reference: ASTM D 698, SOP 7-18-7

Test Details

Standard Proctor	
Hammer Weight (kg)	2.27
Lifts	3
Height of Drop (cm)	30.5
Blows per Layer	25
Volume of Mould (cm^3)	941.82
Compacting Effort (kN-m/m^3)	600
Specific Gravity	3.22

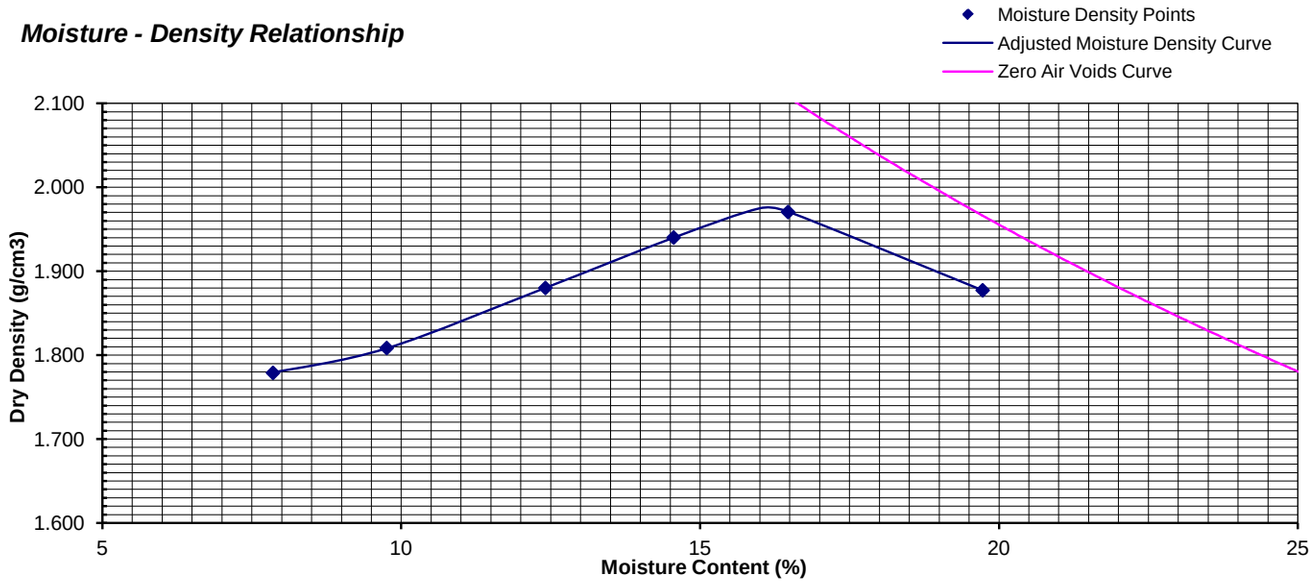
Test Data

Parameter	**Units**	**1**	**2**	**3**	**4**	**5**	**6**
Moisture Content	%	7.85	9.76	12.41	14.56	16.47	19.73
Dry Density	g/cm^3	1.779	1.808	1.880	1.940	1.971	1.877

Results

Parameter	**Units**	**1st Cl Scav Tls**
Max. Wet Density	g/cm^3	2.291
Max. Dry Density	g/cm^3	1.975
Optimum Moisture Content	%	16.0

Moisture - Density Relationship



B. Bowman
Senior Technologist

R. J. Caldwell B.Sc.,
Project Manager

TEST REPORT

Compaction Characteristics of Soil Using Standard Effort

Sample ID: Cyclone U/F - Untreated
Date Completed: June 16/09
Reference: ASTM D 698, SOP 7-18-7

Test Details

Standard Proctor	
Hammer Weight (kg)	2.27
Lifts	3
Height of Drop (cm)	30.5
Blows per Layer	25
Volume of Mould (cm^3)	941.82
Compacting Effort (kN-m/m^3)	600
Specific Gravity	2.69

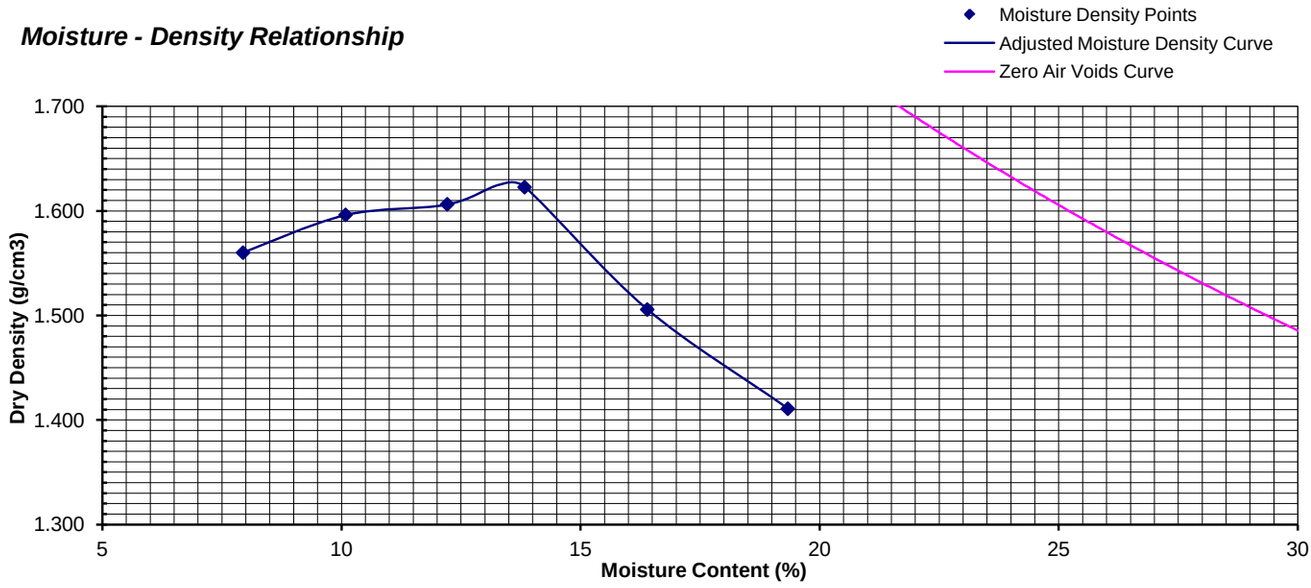
Test Data

Parameter	**Units**	**1**	**2**	**3**	**4**	**5**	**6**
Moisture Content	%	7.94	10.09	12.21	13.83	16.39	19.33
Dry Density	g/cm^3	1.560	1.596	1.606	1.623	1.506	1.411

Results

Parameter	**Units**	**Cyclone U/F - Untreated**
Max. Wet Density	g/cm^3	1.841
Max. Dry Density	g/cm^3	1.625
Optimum Moisture Content	%	13.3

Moisture - Density Relationship



B. Bowman
Senior Technologist

R. J. Caldwell B.Sc.,
Project Manager

CONSOLIDATED DRAINED DIRECT SHEAR TEST SHEET 1 OF 3	FIGURE		
TEST STAGE	A	B	C
BOREHOLE NUMBER	-	-	-
SAMPLE	Cyclone	Cyclone	Cyclone
SAMPLE DEPTH, (m)	-	-	-
SAMPLE HEIGHT, (mm)	26.99	27.62	29.4
SAMPLE LENGTH, (mm)	60	60	59.8
WATER CONTENT, BEFORE TEST, (%)	13.2	13.3	13.1
NORMAL (CONSOLIDATION) STRESS, (kPa)	200	400	800
WATER CONTENT, AFTER TEST, (%)	23.34	22.8	21.33
DISPLACEMENT RATE, mm/min	0.0048	0.0048	0.0048
TIME TO FAILURE, hours	9	20	12
PEAK SHEAR STRESS, (kPa)	124.74	250.95	584.19
HORIZONTAL DISPLACEMENT AT PEAK, (mm)	2.64	5.89	3.38
RESIDUAL SHEAR STRESS, (kPa)	117.49	249.87	558.91
HORIZONTAL DISPLACEMENT AT RESIDUAL, (mm)	11.78	11.97	11.27
DRY DENSITY, initial, Mg/m^3	1.63	1.63	1.61
WET DENSITY, initial, Mg/m^3	1.871	1.841	1.817

TEST NOTES:

Date: 07/07/2009

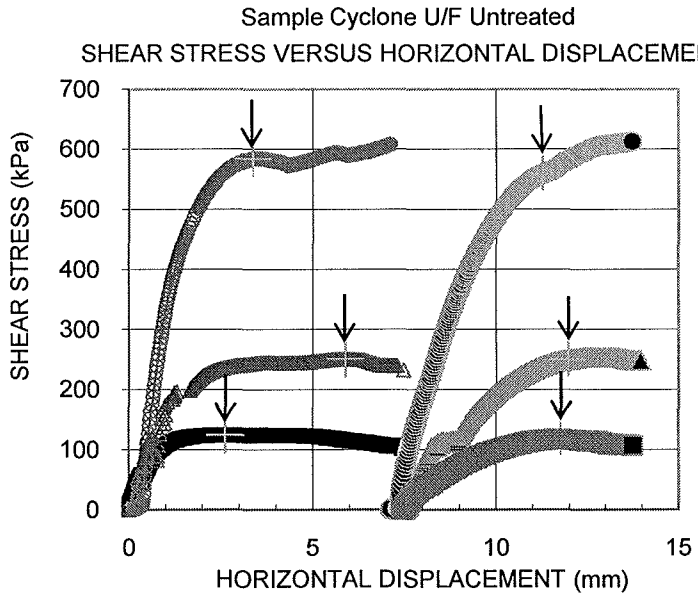
Project No. 09-1116-0024

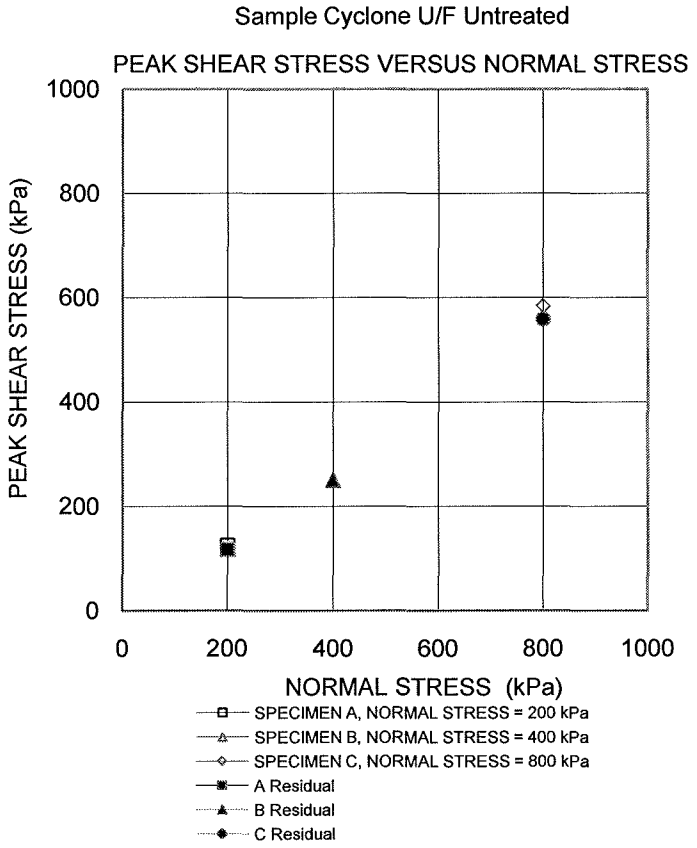
Golder Associates

Prepared By: LH

Checked By: MM

CONSOLIDATED DRAINED DIRECT SHEAR TEST SHEET 2 OF 3	FIGURE





Date: 07/07/2009

Project No. 09-1116-0024

Golder Associates

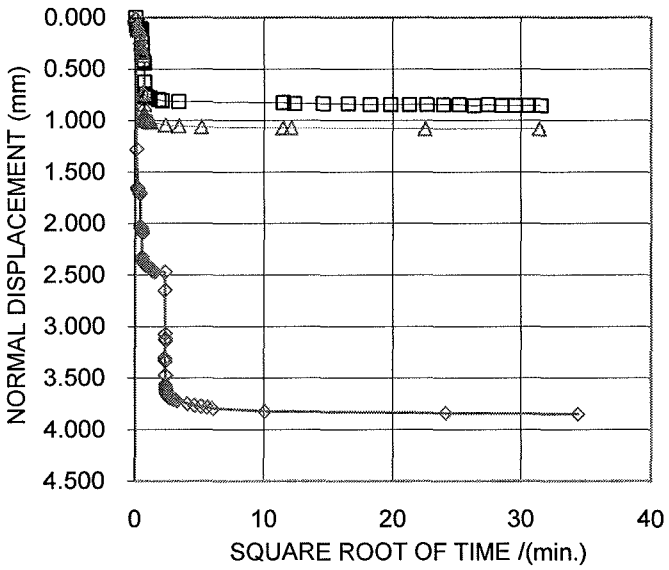
Prepared By LH

Checked By: MM

CONSOLIDATED DRAINED DIRECT SHEAR TEST SHEET 3 OF 3	FIGURE

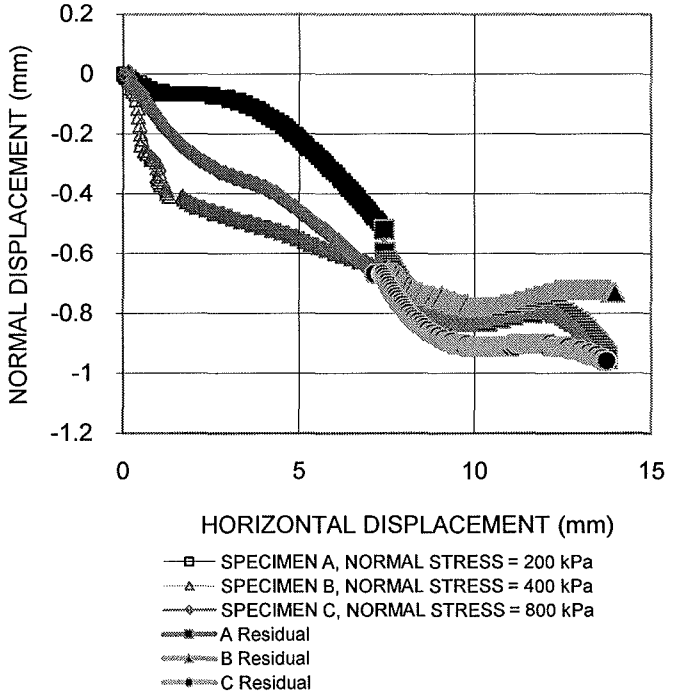
Sample Cyclone U/F Untreated

NORMAL DISPLACEMENT VERSUS SQUARE ROOT OF TIME



Sample Cyclone U/F Untreated

NORMAL DISPLACEMENT VERSUS HORIZONTAL DISPLACEMENT



Date: 07/07/2009

Project No. 09-1116-0024

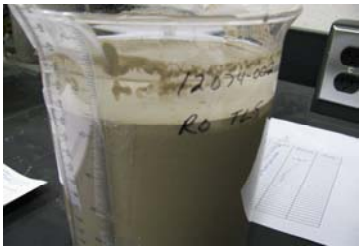
Golder Associates

Prepared By LH

Checked By: MM

Environmental Testing of Resolution Pilot Plant Tailings
Resolution Copper
SGS Reference No.: 12074-002

TEST REPORT
KCB Beaker Settling Test



Settling test at 4 hours 40 min

Sample ID: Ro Tls
Date Completed: June 29/09
Reference: SOP 7-18-1
Flocculant: Hyperfloc AF 303 at 20g/tonne

Test Details

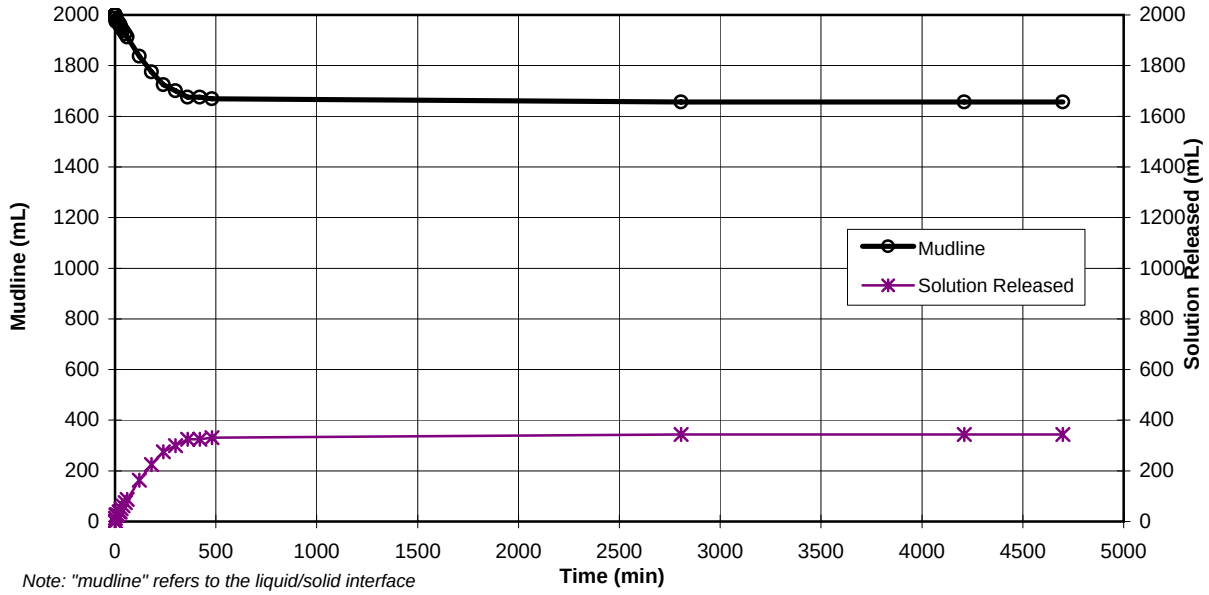
Parameter	Unit	Value
Dry solid SG		2.69
Dry solid weight	g	2196.2
Liquid SG		1.00
Temperature	°C	22
Initial pulp height	mm	160

Test Details

Parameter	Unit	Value
Initial pulp volume	mL	2000
Initial net pulp weight	g	3356.7
Feed pulp density	g/L	1690
Feed percent solids*	%	65.0

** Feed percent solids is based on measured dry solid weight*

Height of Mudline Over Time

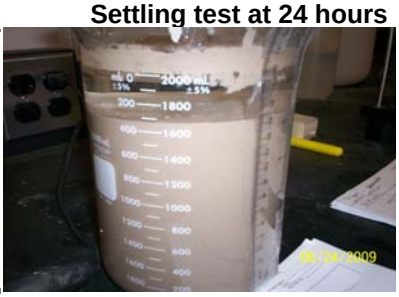


Note: "mudline" refers to the liquid/solid interface

Final Test Results

Parameter	Unit	Value
Total settling time	min	4699
Final mudline	mL	1656
Final percent solids	%	72.3
Final settled density	g/L	1833
Total H_2O released	g	344
H_2O released/g solids	g/g	0.16
H_20 released (dry wt basis)	%	16

Settling test at 24 hours



B. Bowman
Senior Technologist

R.J. Caldwell
Project Manager

Appendix G – Chain of Custody Forms

Apr 11155

SGS Lakefield Research Limited
Environmental Services

Request for Laboratory Services and Chain of Custody Form

No 12074-002-01

P.O. Box 4300, 185 Concession St., Lakefield, ON. K0L 2H0, Phone (705) 652-2038, Fax (705) 652-6441

Report Results to:	Name: Barb Bowman	LRL LIMS No.:
	Company: SGS Lakefield Research Ltd	Received by (Date & Time): AW 04/09/09
	Address:	Logged in by (Date):
	City	Lab Batch ID:
	Province, Postal Code	Project No.: 12074-002
	Telephone Number: 2148 Fax:	Plant No.:
Send Invoice to:	Name: Rob Caldwell	Quote No.:
	Company:	Purchase Order No.:
	Address:	TAT (Turnaround Time) * Some exceptions apply, please contact lab
	City	Standard [X] RUSH [ ] Specify Date:
	Province, Postal Code	Time:
	Telephone Number: 2043 Fax:	PLEASE CONTACT LAB PRIOR TO SUBMITTING RUSH PROJECTS
Chain of Custody	Sampled by: B Bowman	Sample condition upon receipt:
	Packed and Shipped by: Date /Time:	17 x 3
	Shipment Method and WB#: Date /Time:	Temperature upon receipt: °C

Please specify any guideline or regulation that these samples may apply(I.e. ODWS, PWQO, Reg 558, GCSO, MISA, MMER, CBWA).

Guideline: Regulation: initial:

Metals suite: Ag, Al, As, B, Ba, Be, Bi, Ca, Cd, Co, Cr, Cu, Fe, K, Li, Mg, Mn, Mo Na, Ni, Pb, Sb, Se, Si, Sn, Sr, Ti, Tl, U, V, W, Y, Zn + Hg

Analysis Requested (X) as Required

(Enter an "X" in the boxes to indicate which request(s) apply to each sample)

	Sample Matrix*	Sample Identifier	No. Bottles	Date Sampled	Time Sampled	pH, conductivity, EH, TDS, TSS, Alkalinity, Acidity	Anions (Cl, F, NO2, NO3, SO4)	NH3 + NH4	Thiosalts	Total Metals + Hg	Dissolved Metals + Hg	
1		Rougher Tls				X	X	X	X	X	X	
2												
3												
4												
5												
6												
7												
8												
9												
10												

* Matrix Codes: GW-ground water, SW-surface water, RES-Residential Water, EFF-Effluent, PROC-Process Water, SOIL-Soil, SED-Sediment, SWAB-Swabs, FILT-Filters

* Regulated Water Codes: GRW-ground raw water, SRW-surface raw water, TDW-Treated Drinking Water, DDW-Distribution-Drinking Water

Work Authorized by(Client or representative signature must accompany request): Date: Apr 9/09

Part No. CofC-2(Email/Fax Copy)

SGS Lakefield Research Limited
Environmental Services

Request for Laboratory Services and Chain of Custody Form

No 12074-002-02

P.O. Box 4300, 185 Concession St., Lakefield, ON. K0L 2H0, Phone (705) 652-2038, Fax (705) 652-6441

Report Results to:	Name: Barb Bowman	LRL LIMS No.: CPN 11206-09
	Company: SGS Lakefield Research Ltd	Received by (Date & Time): 04/14/09
	Address:	Logged in by (Date):
	City	Lab Batch ID:
	Province, Postal Code	Project No.: 12074-002
	Telephone Number: 2148 Fax:	Plant No.:
Send Invoice to:	Name: Rob Caldwell	Quote No.:
	Company:	Purchase Order No.:
	Address:	TAT (Turnaround Time) * Some exceptions apply, please contact lab
	City	Standard [X] RUSH [ ] Specify Date:
	Province, Postal Code	Time:
	Telephone Number: 2043 Fax:	PLEASE CONTACT LAB PRIOR TO SUBMITTING RUSH PROJECTS
Chain of Custody	Sampled by: B Bowman	Sample condition upon receipt:
	Packed and Shipped by: Date /Time:	
	Shipment Method and WB#: Date /Time:	

Please specify any guideline or regulation that these samples may apply(i.e. ODWS, PWQO, Reg 558, GCSO, MISA, MMER, CBWA).

Guideline: Regulation: initial:

Temperature upon receipt: 17 °C x 3.

Metals as per 11155-APR09

Analysis Requested (X) as Required

(Enter an "X" in the boxes to indicate which request(s) apply to each sample)

	Sample Matrix*	Sample Identifier	No. Bottles	Date Sampled	Time Sampled	pH, conductivity, EH, TDS, TSS, Alkalinity, Acidity	Anions (Cl, F, NO2, NO3, SO4)	NH3 + NH4	Thiosalts	Total Metals + Hg	Dissolved Metals + Hg	
1		Ist Cl Scav Tls				X	X	X	X	X	X	
2		Whole Tls				X	X	X	X	X	X	
3												
4												
5												
6												
7												
8												
9												
10												

* Matrix Codes: GW-ground water, SW-surface water, RES-Residential Water, EFF-Effluent, PROC-Process Water, SOIL-Soil, SED-Sediment, SWAB-Swabs, FILT-Filters

* Regulated Water Codes: GRW-ground raw water, SRW-surface raw water, TDW-Treated Drinking Water, DDW-Distribution Drinking Water

Work Authorized by(Client or representative signature must accompany request): Date: Apr 14/09

Part No. CofC-2(Email/Fax Copy)

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SGS Lakefield Research Limited
Environmental Services

Request for Laboratory Services and Chain of Custody Form

No 12074-002-03

P.O. Box 4300, 185 Concession St., Lakefield, ON. K0L 2H0, Phone (705) 652-2038, Fax (705) 652-6441

Report Results to:	Name: Barb Bowman	LRL LIMS No.:
	Company: SGS Lakefield Research Ltd	Received by (Date & Time): DW 05/01/09
	Address:	Logged in by (Date):
	City	Lab Batch ID:
	Province, Postal Code	Project No.: 12074-002
	Telephone Number: 2148 Fax:	Plant No.:
Send Invoice to:	Name: Rob Caldwell	Quote No.:
	Company:	Purchase Order No.:
	Address:	TAT (Turnaround Time) * Some exceptions apply, please contact lab
	City	Standard [X] RUSH [ ] Specify Date:
	Province, Postal Code	Time:
	Telephone Number: 2043 Fax:	PLEASE CONTACT LAB PRIOR TO SUBMITTING RUSH PROJECTS
Chain of Custody	Sampled by: B Bowman	Sample condition upon receipt:
	Packed and Shipped by: Date /Time:	
	Shipment Method and WB#: Date /Time:	Temperature upon receipt: 21 °C

Please specify any guideline or regulation that these samples may apply(i.e. ODWS, PWQO, Reg 558, GCSO, MISA, MMER, CBWA).

Guideline: _____ **Regulation:** _____ **initial:** _____

Metals as per 11155-APR09

Analysis Requested (X) as Required

(Enter an "X" in the boxes to indicate which request(s) apply to each sample)

	Sample Matrix*	Sample Identifier	No. Bottles	Date Sampled	Time Sampled	pH, conductivity, EH, TDS, TSS, Alkalinity, Acidity	Anions (Cl, F, NO2, NO3, SO4)	NH3 + NH4	Thiosalts	Total Metals + Hg	Dissolved Metals + Hg	
1		Cyclone U/F - Untreated				X	X	X	X	X	X	
2		Cyclone U/F - Desulphidized				X	X	X	X	X	X	
3												
4												
5												
6												
7												
8												
9												
10												

* Matrix Codes: GW-ground water, SW-surface water, RES-Residential Water, EFF-Effluent, PROC-Process Water, SOIL-Soil, SED-Sediment, SWAB-Swabs, FILT-Filters

* Regulated Water Codes: GRW-ground raw water, SRW-surface raw water, TDW-Treated Drinking Water, DDW-Distribution Drinking Water

Work Authorized by(Client or representative signature must accompany request): _____ **Date:** May 1/09

Part No. CofC-2(Email/Fax Copy)

SGS Lakefield Research Limited
Environmental Services

Request for Laboratory Services and Chain of Custody Form

No 12074-002-04

P.O. Box 4300, 185 Concession St., Lakefield, ON. K0L 2H0, Phone (705) 652-2038, Fax (705) 652-6441

Report Results to:	Name: Barb Bowman	LRL LIMS No.:
	Company: SGS Lakefield Research Ltd	Received by (Date & Time): 05/05/09 9:00
	Address:	Logged in by (Date):
	City	Lab Batch ID:
	Province, Postal Code	Project No.: 12074-002
	Telephone Number: 2148 Fax:	Plant No.:
Send Invoice to:	Name: Rob Caldwell	Quote No.:
	Company:	Purchase Order No.:
	Address:	TAT (Turnaround Time) * Some exceptions apply, please contact lab
	City	Standard [X] RUSH [ ] Specify Date:
	Province, Postal Code	Time:
	Telephone Number: 2043 Fax:	PLEASE CONTACT LAB PRIOR TO SUBMITTING RUSH PROJECTS
Chain of Custody	Sampled by: B Bowman	Sample condition upon receipt: May 11122
	Packed and Shipped by: Date /Time:	
	Shipment Method and WB#: Date /Time:	

Please specify any guideline or regulation that these samples may apply(i.e. ODWS, PWQO, Reg 558, GCSO, MISA, MMER, CBWA).

Guideline: Regulation: initial:

Temperature upon receipt. °C

Need samples riffled and split into cuts for all anlayses.
We are only completing the ABA's at this time.
All additional cuts (whole rock, ICP, leach, NAG + Hum Cell) to be returned to B. Bowman (2148).

Analysis Requested (X) as Required
(Enter an "X" in the boxes to indicate which request(s) apply to each sample)

	Sample Matrix*	Sample Identifier	No. Bottles	Date Sampled	Time Sampled	Whole Rock May 11122	ICP-OES/MS Strong Acid Digest May 11123	Short Term Leach (24 hr - 3:1 LS) 11124	Mod ABA 11125	NAG 11126	Humidity Cell 11127
1		Rougher Tls — NO HUMCELL CUT FOR RO TLS							X		
2		Ist Cl Scav Tls							X		
3		Whole Tls							X		
4		Cyclone U/F - Untreated							X		
5		Cyclone U/F - Desulphidized							X		
6											
7											
8											
9											
10											

* Matrix Codes: GW-ground water, SW-surface water, RES-Residential Water, EFF-Effluent, PROC-Process Water, SOIL-Soil, SED-Sediment, SWAB-Swabs, FILT-Filters

* Regulated Water Codes: GRW-ground raw water, SRW-surface raw water, TDW-Treated Drinking Water, DDW-Distribution Drinking Water

Work Authorized by(Client or representative signature must accompany request): Date: May 5/09

Part No. CofC-2(Email/Fax Copy)

ABA-11249

SGS Lakefield Research Limited
Environmental Services

Request for Laboratory Services and Chain of Custody Form

No 12074-002-05

P.O. Box 4300, 185 Concession St., Lakefield, ON. K0L 2H0, Phone (705) 652-2038, Fax (705) 652-6441

Report Results to:	Name: Barb Bowman	LRL LIMS No.:
	Company: SGS Lakefield Research Ltd	Received by (Date & Time): 05/13/09
	Address:	Logged in by (Date):
	City	Lab Batch ID:
	Province, Postal Code	Project No.: 12074-002
	Telephone Number: 2148 Fax:	Plant No.:
Send Invoice to:	Name: Rob Caldwell	Quote No.:
	Company:	Purchase Order No.:
	Address:	TAT (Turnaround Time) * Some exceptions apply, please contact lab
	City	Standard [X] RUSH [ ] Specify Date:
	Province, Postal Code	Time:
	Telephone Number: 2043 Fax:	PLEASE CONTACT LAB PRIOR TO SUBMITTING RUSH PROJECTS
Chain of Custody	Sampled by: B Bowman	Sample condition upon receipt:
	Packed and Shipped by: Date /Time:	
	Shipment Method and WB#: Date /Time:	

Please specify any guideline or regulation that these samples may apply(i.e. ODWS, PWQO, Reg 558, GCSO, MISA, MMER, CBWA).

Guideline: Regulation: initial:

Temperature upon receipt: °C

Need samples riffled and split into cuts for all anlayses.
We are only completing the ABA's at this time.
All additional cuts (whole rock, ICP, leach, NAG + Hum Cell) to be returned to B. Bowman (2148).

Analysis Requested (X) as Required

(Enter an "X" in the boxes to indicate which request(s) apply to each sample)

	Sample Matrix*	Sample Identifier	No. Bottles	Date Sampled	Time Sampled	Whole Rock	ICP-OES/MS Strong Acid Digest	Short Term Leach (24 hr - 3:1 L:S)	Mod ABA	NAG	Humdity Cell	
1		Rougher Tls	No hum cell cut required for Ro Tls sample						X			
2		Ist Cl Scav Tls							X			
3		Whole Tls							X			
4		Cyclone U/F - Untreated							X			
5		Cyclone U/F - Desulphidized							X			
6												
7												
8												
9												
10												

* Matrix Codes: GW-ground water, SW-surface water, RES-Residential Water, EFF-Effluent, PROC-Process Water, SOIL-Soil, SED-Sediment, SWAB-Swabs, FILT-Filters

* Regulated Water Codes: GRW-ground raw water, SRW-surface raw water, TDW-Treated Drinking Water, DDW-Distribution Drinking Water

Work Authorized by(Client or representative signature must accompany request): Date: May 13/09

Part No. CofC-2(Email/Fax Copy)

SGS Lakefield Research Limited
Environmental Services

Request for Laboratory Services and Chain of Custody Form

No 12074-002-06

P.O. Box 4300, 185 Concession St., Lakefield, ON. K0L 2H0, Phone (705) 652-2038, Fax (705) 652-6441

Report Results to:	Name: Barb Bowman	LRL LIMS No.: May 11270 R09
	Company: SGS Lakefield Research Ltd	Received by (Date & Time):
	Address:	Logged in by (Date): mm May 14
	City	Lab Batch ID:
	Province, Postal Code	Project No.: 12074-002
	Telephone Number: 2148 Fax:	Plant No.:
Send Invoice to:	Name: Rob Caldwell	Quote No.:
	Company:	Purchase Order No.:
	Address:	TAT (Turnaround Time) * Some exceptions apply, please contact lab
	City	Standard [X] RUSH [ ] Specify Date:
	Province, Postal Code	Time:
	Telephone Number: 2043 Fax:	PLEASE CONTACT LAB PRIOR TO SUBMITTING RUSH PROJECTS
Chain of Custody	Sampled by: B Bowman	Sample condition upon receipt:
	Packed and Shipped by: Date /Time:	
	Shipment Method and WB#: Date /Time:	

Please specify any guideline or regulation that these samples may apply(i.e. ODWS, PWQO, Reg 558, GCSO, MISA, MMER, CBWA).

Guideline: **Regulation:** **initial:**

Temperature upon receipt: °C

Analysis Requested (X) as Required

(Enter an "X" in the boxes to indicate which request(s) apply to each sample)

	Sample Matrix*	Sample Identifier	No. Bottles	Date Sampled	Time Sampled	Slump						
1		Ist Cl Scav Tls				X						
2												
3												
4												
5												
6												
7												
8												
9												
10												

* **Matrix Codes:** **GW**-ground water, **SW**-surface water, **RES**-Residential Water, **EFF**-Effluent, **PROC**-Process Water, **SOIL**-Soil, **SED**-Sediment, **SWAB**-Swabs, **FILT**-Filters

* **Regulated Water Codes:** **GRW**-ground raw water, **SRW**-surface raw water, **TDW**-Treated Drinking Water, **DDW**-Distribution Drinking Water

Work Authorized by(Client or representative signature must accompany request): **Date:** May 14/09

Part No. CofC-2(Email/Fax Copy)

SGS Lakefield Research Limited
Environmental Services

Request for Laboratory Services and Chain of Custody Form

No 12074-002-07

P.O. Box 4300, 185 Concession St., Lakefield, ON. K0L 2H0, Phone (705) 652-2038, Fax (705) 652-6441

Report Results to:	Name: Barb Bowman	LRL LIMS No.:
	Company: SGS Lakefield Research Ltd	Received by (Date & Time): 06/01/09
	Address:	Logged in by (Date):
	City	Lab Batch ID:
	Province, Postal Code	Project No.: 12074-002
	Telephone Number: 2148 Fax:	Plant No.:
Send Invoice to:	Name: Rob Caldwell	Quote No.:
	Company:	Purchase Order No.:
	Address:	TAT (Turnaround Time) * Some exceptions apply, please contact lab
	City	Standard [X] RUSH [ ] Specify Date:
	Province, Postal Code	Time:
	Telephone Number: 2043 Fax:	PLEASE CONTACT LAB PRIOR TO SUBMITTING RUSH PROJECTS
Chain of Custody	Sampled by: B Bowman	Sample condition upon receipt:
	Packed and Shipped by: Date /Time:	
	Shipment Method and WB#: Date /Time:	Temperature upon receipt: °C

Please specify any guideline or regulation that these samples may apply(i.e. ODWS, PWQO, Reg 558, GCSO, MISA, MMER, CBWA).

Guideline: **Regulation:** **initial:**

10997 10998 10999 11000

ICP Metals Analyses: Ag, Al, As, B, Ba, Be, Bi, Ca, Cd, Co, Cr, Cu, Fe, K, Li, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Si, Sn, Sr, Ti, Tl, U, V, W, Y, Zn + Hg
Short Term Leach Ana: pH, Cond, Alkalinity, Acidity, Cl, F, SO4 + metals suite noted above.
Hum Cell Ana: pH, Cond, Acid, Alkalinity, SO4 weekly. Wks 0-5 + Wks 10, 15, 20 etc: metals suite as noted above

Analysis Requested (X) as Required
(Enter an "X" in the boxes to indicate which request(s) apply to each sample)

	Sample Matrix*	Sample Identifier	No. Bottles	Date Sampled	Time Sampled	ICP-OES/MS Strong Acid Digest	Short Term Leach (24 hr - 3:1 L:S)	NAG	Humidity Cell			
1		Rougher Tls				X	X	X				
2		Ist Cl Scav Tls				X	X	X	X			
3		Whole Tls				X	X	X	X			
4		Cyclone U/F - Untreated				X	X	X	X			
5		Cyclone U/F - Desulphidized				[redacted]	[redacted]	X	X			
6												
7												
8												
9												
10												

* Matrix Codes: GW-ground water, SW-surface water, RES-Residential Water, EFF-Effluent, PROC-Process Water, SOIL-Soil, SED-Sediment, SWAB-Swabs, FILT-Filters

* Regulated Water Codes: GRW-ground raw water, SRW-surface raw water, TDW-Treated Drinking Water, DDW-Distribution Drinking Water

Work Authorized by(Client or representative signature must accompany request): **Date: June 1/09**

Part No. CofC-2(Email/Fax Copy)

SGS Lakefield Research Sample Control Sheet for Mineralogy Samples

Mineralogy LIMS Number:
Date Prepared: JUNE 1/09
Department: ENVIRO MET
Project Number: 12074-002
Test Number: ~~12074-002~~
Met. Project Manager B BOWMAN

Date Required: ASAP
Sample Description: TAILS
Number of samples: 4
***Mineralogy Proj Manager:** STEPH
Quote/Proposal Number:

Quoted Price ~~1200~~ 1200 BB *initialed by Project Manager* *Not to be exceded without prior authorization*

Sample Description	Weight wt/g	Mineralogical Testing Information
		Request from client:
WHOLE TLS		
RO TLS		SEMI-QUANTITATIVE XRD
1ST CL SCAV TLS		
CYCLONE SANDS = UNTREATED		
		PLEASE COMPLETE THE
		WHOLE ROCK ANALYSES
		IN MINERALOGY.

* Please fill in Mineralogy Proj. Manager to speed up login of samples.
Attach proposal/quote if possible.